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S U R G I C A L
AND
P H Y S I O L O G I C A L
E S S A Y S.

BY
JOHN ABERNETHY, F.R.S.

ASSISTANT SURGEON TO ST. BARTHOLOMEW'S HOSPITAL:
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T O
WILLIAM BLIZARD, EsQUIRE,
F. R. S. and F. A. S.

SURGEON TO THE LONDON HOSPITAL, &c.

S I R,

I AM induced to present the following pages to your notice, as, by this means, an opportunity is afforded me of publicly expressing my grateful sense of your friendly attentions to me, at an early period of my life; and also of declaring my respect for your professional character, in which, a zeal for the promotion of medical science is united to a benevolent earnestness in administering its aid to the afflicted. Such a character must naturally obtain that tribute of respect from all, which I individually have great gratification in offering.

I am, SIR,

Your sincere friend and servant,

JOHN ABERNETHY.

E S S A Y

ON

INJURIES OF THE HEAD.

SECTION I.

WHEN the Members of the Academy of Surgery in France, and when Mr. Pott in England, severally inculcated to the surgeons of their respective countries, the propriety and necessity of trephining the cranium under various circumstances consequent to injuries of the head, they probably recommended a too free and frequent performance of that operation. Such appears to be the opinion of many respectable writers who have published since their time; particularly M. Default of Paris, Mr. Dease of Dublin, and Mr. John Bell of Edinburgh. But al-

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though these writers unite in censuring the frequency of the practice above mentioned, they are very far from being agreed in other respects; and many material points seem to me to require still further explanation.

Believing that the observations which I have had an opportunity of making at St. Bartholomew's Hospital, will enable me to throw some light on this important and intricate subject, I am induced to submit to the public a short account of several cases that occurred there, and the inferences which I drew from them.

The difficulties connected with this part of surgery are sufficiently proved by this circumstance, that, notwithstanding it has at all times excited the attention of surgeons possessing the greatest talents, and enjoying the most extensive field for observation, much difference of opinion still subsists, and the practice that ought to be followed in particular cases, yet remains a matter of dispute. It is not, indeed, probable, that any part of medi-

cal science can in a short time receive all the improvement of which it is capable ; for, in proportion as we advance in knowledge, we are led to remark many circumstances in the progress of a disorder, which had before passed without notice, but which, if known and duly attended to, would clearly point out to us the nature and remedy of the complaint. Hence, the records of former cases are of much less value, as the symptoms about which we are now anxious to inquire, have in them been entirely overlooked.

I was led to this remark by reading the Works of Hildanus, Wepfer, Du Quesnay, and others, wherein are to be found a number of interesting cases, which I have been precluded from mentioning, as the nature of them cannot be exactly ascertained in consequence of this deficiency.

Although I have been for many years attentive to the treatment of persons who had suffered injuries of the head, and also to the examination of the parts after death, where

the case has terminated fatally ; I still perceive so many circumstances which require investigation, that I entertain no hope of ever being able to obtain, from my own experience, all the information the subject is capable of affording. I hope, however, that the hints offered in this Essay may have the effect of inducing surgeons to pay a closer attention to cases of this kind, and that thus, by their united observations, the public may at length become possessed of that knowledge, which the labours of an individual could never supply.

In the accounts which we have of the former practice in France, it is related that surgeons made numerous perforations along the whole track of a fracture of the cranium ; and, as far as I am able to judge, without any very clear design. Mr. Pott also advises such an operation, with a view to prevent the inflammation and suppuration of the *dura mater*, which he so much apprehended. But many cases

cases have occurred of late, where, even in fractures with depression, the patients have done well without an operation. To confirm the accounts that have been given of such cases, and by this means to counteract, in some degree, the bias which long-accustomed modes of thinking and acting are apt to impress on the minds of practitioners, I shall relate the histories of five cases, that occurred at St. Bartholomew's Hospital in the space of twelve months; and afterwards offer a few remarks upon the subject. The principal circumstances only of each case are related; for, as many examples of the same kind are to be found in various surgical books, a minute detail of particulars seems to be unnecessary.

Cases of Fracture of the Cranium with Depression, which terminated favourably, although no Operation was performed.

C A S E I.

A woman, about forty years of age, was admitted into the hospital for a wound on her

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head.

head. About a week before she applied for advice, her husband had knocked her down with a brass candlestick. She was stunned by the blow, and lay for some time senseless; but, on recovering, she felt no other inconvenience than the soreness occasioned by the wounded integuments. She had suffered some slight indisposition since the accident.

On examining the head, the right parietal bone was found denuded about two inches in extent; a fracture of the same length was also to be felt; and the bone on one side of the fracture was depressed about the eighth of an inch.—She remained in the hospital a fortnight, without any bad symptom occurring, and was then, at her own desire, discharged, although the wound was not perfectly healed.

C A S E II.

A boy, about twelve years old, received a kick from a horse in Smithfield, which stunned him; and he was immediately brought to the hospital. The integuments of the forehead

head were divided by the injury, and the superciliary ridge of the frontal bone depressed at least a quarter of an inch below its original level; the depressed portion measuring about an inch and half in length.

It is obvious that the bone could not be thus depressed, without a fracture of some part of the basis of the skull occurring at the same time, on which account the case might be considered as more dangerous.—In less than two hours he had recovered from the immediate effect of the blow, being at that time perfectly sensible. Fourteen ounces of blood were taken from his arm; his bowels were emptied by a purge, and saline medicines, with antimonials, were directed to be given. He went on tolerably well for two days, at the end of which time, evident symptoms of considerable irritation of the brain took place. He now complained of pain in his head; slept little; and, when dozing, often started, or was convulsed in a slight degree. To remove these symptoms, he was bled twice, took opening medicines occasionally, was kept

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quiet, and without light, and was allowed only a spare diet. By continuing this plan for about three weeks, he perfectly recovered.

C A S E III.

A man, between thirty and forty years of age, received a blow on the forehead from a brick thrown at him, by which the frontal bone was fractured about half an inch above the orbit: the fracture measured two inches in length, and the upper portion of the bone was depressed about the eighth of an inch. He was not even stunned by the blow, and walked to the hospital without assistance, complaining only of soreness in the wounded integuments. Sixteen ounces of blood were immediately taken from his arm; he was confined (much against his inclination) to a scanty and liquid diet, and was purged every second day.—This patient did not experience any illness; and the wound soon healed.

C A S E IV.

A boy, about thirteen years old, had a fracture, with depression, of part of the temporal

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ral and parietal bones. By similar treatment, he also escaped without any material ill consequence ; but in this case, part of the injured bone exfoliated.

C A S E V.

A girl, thirteen years old, had a considerable fracture, with depression, of the left parietal bone. She was not brought to the hospital until ten days after the accident. When admitted, she was feverish, had pain in her head, and the little sleep she got, was very much disturbed : but, by the use of bleeding, with antiphlogistic medicines and regimen, she soon got perfectly well.

The cases above related are not offered to notice on account of any striking peculiarity attending them, but merely to shew that such are not infrequent, as they all occurred within the course of a year. From amongst a great number of similar cases, I shall select the following one, as the symptoms attending it were more violent than ordinary.

C A S E VI.

A lad, seventeen years of age, had his head pressed between a cart-wheel and a post; by which accident the scalp on both sides was turned downwards, so as to expose the lower half of the parietal bones, the squamous part of the temporal, and also part of the frontal and occipital bones; about a quarter of the cranium being thus denuded of its coverings. The periosteum was in several places stript off from the skull, the scalp much bruised, and the posterior and inferior angle of the left parietal bone was beaten in. The depressed portion which was visible, was an inch in length, and more than an eighth of an inch below the level of the cranium; but the fracture extended along the squamous part of the temporal bone towards the basis of the skull: it could not, however, be traced, as the temporal muscle had not been removed from that part by the injury.—The scalp being cleansed, was replaced, retained in its situation by slips of sticking-plaster, and a slight pressure by bandage was applied. The boy was perfectly sensible,

fible, his pulse regular, and not quickened. He had bled considerably from the temporal artery, which had been divided by the accident: eight ounces of blood were, however, taken from his arm; and some purging medicine was administered next morning, which procured three or four stools.—The next day (*Friday*), his pulse beat nearly 120 in a minute; his skin was hot and dry; and he complained of pain in his forehead. Twelve ounces of blood were taken away, and four grains of pulvis antimonialis ordered to be given three times a day. On *Saturday*, the former symptoms still continued, and were rather increased. The antimonial powder made him sick, or at least increased his disposition to be so. Fourteen ounces more of blood were taken from him; the vibratory feel of his pulse not being altered until that quantity was taken away: the blood, on standing, appeared very buffy. His skin, notwithstanding all this, still remained extremely dry; some antimonial wine was given, which produced vomiting. On *Sunday*, his pulse was evidently lowered by the evacuations he had undergone,
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but it was still quick, and sufficiently strong. The pain of his head remained as before. Having a sufficient number of stools, and the sickness still continuing, the antimonial powder was omitted. He was bled, however, in the vena saphena, and his feet and legs afterwards immersed in warm water; during which, he, for the first time, perspired copiously. A blister was also applied to his neck.—The scalp united, with only a trifling suppuration over the fractured part of the bone; and to this ready union, the lowering plan, by preventing inflammation, seems very materially to have contributed. The matter collected over the fracture was discharged by a puncture, and the boy got well.

It appears very clearly, I think, from these cases, as well as from a great number of others to be found in books, that a slight degree of pressure does not derange the functions of the brain, for a limited time after its application. That it does not do so at first, is very obvious; as persons are often perfectly sensible, and free

from head-ach and giddiness immediately after the injury. Whether it may not produce such an effect at some remote period, is not so easily determined, since this cannot be ascertained but by a continued acquaintance with the persons who had received the injuries. All those, however, whom I have had an opportunity of knowing for any length of time after the accident, continued as well as if nothing of the kind had ever happened to them. In Mr. Hill's Cases in Surgery, two instances of this sort are related; and Mr. Hill knew both the patients for many years afterwards, yet did not perceive any inconvenience to arise. It deserves to be mentioned too, that one of the patients was a sailor, and therefore, probably, led a life of irregularity as well as of exertion. The result of cases of this kind, which I have met with in authors, does not lead to the apprehension of any future mischief: nor is it easy to conceive that the pressure, which caused no ill effects at a time when the contents of the cranium filled its cavity completely, should afterwards prove injurious when they have adapted themselves to its altered

altered size and shape. Severe illness, indeed, does often intervene between the receipt of the injury and the time of its recovery; and many surgeons might be inclined to attribute this to pressure; but it equally occurs where the depressed portion is elevated; several instances of which I shall have occasion to relate, and many others are to be met with in authors. This is a circumstance which nothing but very extensive experience can shew in a true light. If, for instance, a surgeon who was prepossessed with the opinion that elevation of the bone is necessary in every instance of depressed cranium, should have acted upon this opinion in the first, third, fourth, and fifth cases, and afterwards have employed proper evacuations, his patients would probably have had no bad symptoms, and he would naturally have attributed their well-doing to the mode of treatment which he had pursued: yet these cases did equally well without an operation. If the same surgeon had been witness to the disturbance which arose in the second and sixth cases, he would, without doubt, have attributed them to the continu-

continuance of pressure made by the bone ; yet these cases also did well by medical treatment only : and when the symptoms which come on thus, are of the inflammatory kind, they may generally be removed by the same means. Many cases also are to be met with in books, and some are related in the subsequent part of this Essay, where not only great but even fatal mischief ensued, notwithstanding the brain was relieved from pressure at an early period. Another surgeon, prejudiced against the use of the trephine, might, with equal injustice, consider the mischief which ensues in certain cases, as entirely owing to the operation.

The degree of pressure which the brain can sustain without great injury to the system, probably may vary according to the disposition of that organ to be affected by it, the suddenness of its application, and the direction in which it is made ; and although it must be very difficult to obtain any precise knowledge on this subject, yet there is great reason to believe that the brain can bear more pressure without

without injury to it, than was formerly supposed. The first of these circumstances seems evident; for in some persons a slight pressure produces severe symptoms; whilst, in others, a much greater degree is borne without inconvenience. Where a compressing cause does not, in the first instance, occasion bad effects, if inflammation of the brain ensues, it seems then to act injuriously; which probably arises from the increased susceptibility of the brain. We can rarely judge of the effects of pressure when any part of the cranium is beaten in by a blow; for in that case the shock generally occasions stupefaction. Internal hæmorrhages, perhaps, afford us the best criterion whereby to determine the effects of pressure on the brain. The seventh case will serve as an illustration of this remark, where it appears that a considerable hæmorrhage must have taken place before it deprived the patient of his faculties; for he walked home, undressed himself, and went to bed, after the trunk of the middle artery of the dura mater had been ruptured. In cases of apoplexy also, the hæmorrhage is generally
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very large before it produces those consequences which destroy life.

The authorities quoted by Morgagni, as well as his own observations, shew that people may recover from apoplexy even after a considerable effusion of blood has taken place. But as such cases are uncommon, and as it appears to me that farther confirmation of them would be highly useful, I have obtained permission of Mr. Wilson, to mention a remarkable case of this kind, which occurred to his notice.—A gentleman fell down suddenly, and remained for some time in that lethargic state which is usual in apoplectic cases; but afterwards gradually recovered his faculties both of mind and body, and continued to exercise them very perfectly for two years, when a second attack of the same kind took place, and destroyed him. Upon opening the head, the cause of his death became evident; for a large quantity of blood was found in the ventricles, and at the basis of the cranium. But what seemed particularly worthy of attention, was a cavity in the right hemisphere of the brain,

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extending from the front to the back part of the cerebrum, being more than four inches in length, and more than an inch in breadth. Within this cavity were contained flakes of coagulated lymph, and a bloody-coloured fluid, which Mr. Wilson, whose abilities and accuracy of observation entitle his opinion to the fullest credit, was convinced were the remains of the blood extravasated at the first attack.

Though a slight degree of pressure does not immediately affect the functions of the brain, yet it may act in another way,—it may excite inflammation of that organ, as it does of other parts of the body. Its power in this respect, however, will probably lessen by the part becoming accustomed to it; and the cases on record, where fractures with depression have done well, as well as those of recovery from apoplexy, are proofs, that the cause which in the first instance was injurious by its pressure, may continue to exist without inconvenience. Such cases ought surely to deter surgeons from elevating the bone in every instance of slight depres-

depression, since by the operation they must inflict a further injury upon their patients, the consequences of which it is impossible to estimate.—From all, therefore, that I have learned from books, as well as from the observations I have made in practice, and from reasoning upon the subject, I am disposed to join in opinion with those surgeons who are against trephining in slight depressions of the skull, or small extravasations on the dura mater. In the latter, it is probable the compressing cause will soon be removed by absorption; and in the former, according to the observations of Mr. Hill* and Mr. Latta†, the bone will regain its natural level if the subject be young. In adults, however, and especially in persons of advanced life, this circumstance cannot be expected; so that in them the accommodation of the parts to each other, necessary for preventing future mischief, must be effected by a corresponding diminution of the brain.

A circumstance, however, frequently oc-

* Cases in Surgery, p. 113.

† Pract. Syst. of Surgery, Vol. II. p. 172.

curs, that may render the surgeon doubtful as to what course he ought to pursue ; this happens when, at the same time that the skull is slightly depressed, the patient labours under the effects of concussion. The circumstances which generally serve to distinguish those two injuries, will be noticed hereafter. At present it is only necessary to observe, that, as the effects of the latter gradually abate, a little delay will enable the surgeon to decide upon the nature of the mischief, and take his measures accordingly. Where the patient retains his faculties, nothing farther is necessary than a continuance of the antiphlogistic plan ; and should any disturbance afterwards take place, the same means, employed in a degree proportioned to the urgency of the symptoms, will in most instances be successful without elevating the bone. This happened in four of the six foregoing cases, which are related without any view to this particular point.— But if, from a peculiar disposition of the brain to be affected by pressure, the disorder of that organ should increase ; or if, from inflammation of the brain having taken place, the
pressure

pressure should then appear to be particularly injurious, the elevation of the bone ought not, I think, to be deferred. And from some of the cases related by Mr. O'Halloran, in the fourth volume of the Transactions of the Royal Irish Academy, it appears that this operation, if not too long delayed, will give effectual relief under such circumstances.

I trust, that nothing which I have said will be construed as insinuating that every depression of the skull may be left unelevated. There certainly are degrees of this injury which it would be highly imprudent to treat in this manner. Whenever the patient retains his senses perfectly, I should think it improper to trephine him, unless symptoms arose that indicated the necessity of it. The cases which I have related will, I believe, justify me in entertaining this opinion, and in thinking that the contrary practice is now carried, by some surgeons, to a prejudicial extreme.

SECTION II.

Injuries of the Head attended with Extravasation of Blood upon the Dura Mater.

In the three following cases the skull was broken, and depressed at the part which covers the middle artery of the dura mater, by which means that vessel was lacerated. The attention of surgeons has not been sufficiently directed to this event, although it is of the utmost importance; for the life of the patient might often be saved, if the nature of the accident were known, and the bone speedily perforated.—These cases likewise display, in a very striking manner, some of the effects caused by great pressure on the brain,

CASE VII.

A man was knocked down by the iron hooks of a crane, which fell upon his head from a considerable height. He was stunned at first, but soon recovered his powers of mind and body so far as to walk home, undress himself, and go to bed. A surgeon was sent for,
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who, on his arrival, found the man senseless, and in a deep apoplectic state. The patient was immediately brought to St. Bartholomew's Hospital, when the functions of life seemed nearly suspended, as he was almost without sensation, his breathing being slow, irregular and stertorous, with an unequal, intermitting pulse, and cold extremities.—The scalp covering the right parietal bone was wounded; and on dividing it more extensively, a fracture with depression was discovered, running obliquely across the anterior and inferior angle of the parietal bone, over the temporal bone, and extending to the basis of the cranium, before the mastoid process. Several perforations with the trephine were made along the course of the fracture, and the depressed portion taken away. A surprising quantity of congealed blood was found upon the dura mater; the coagulum being not less than an inch and half in thickness, and six or seven inches in circumference. On the removal of this coagulum, the brain, which had been indented by its pressure, remained in the same state as before, nor did it ever regain its ori-

ginal level; so that the patient experienced but little benefit from the operation, and he died about twelve hours after receiving the blow.

The dura mater, in this case, was not torn through in any part; so that the blood could not have come from any vessel within that membrane. The source of such a profuse hæmorrhage, however, could not be doubtful, when it was known that the fracture crossed, and had probably wounded, the principal artery of the dura mater; yet that vessel did not bleed after it was exposed.

C A S E VIII.

A boy, about fourteen years of age, fell from a scaffold near two stories high, and pitched on his head. When brought from Islington to the hospital, he appeared to be almost in a dying state. The anterior inferior angle of the parietal, and part of the frontal bone, were found depressed. A piece of the cranium being taken out with the trephine, I discovered beneath it a large quantity of coagulated

agulated blood ; I therefore made the next perforation nearer to the trunk of the principal artery of the dura mater, from which I concluded that this hæmorrhage had taken place. Having gently removed some of the coagulum, and introduced my finger into the aperture which had been made, I passed it as far as the second joint, before I could touch the dura mater. Fluid arterial blood now gushed out in such quantities as to keep the bone covered on which I was next to trephine. I ran no risk, however, in performing the operation ; for the dura mater was depressed so much that it could not be injured. But to guard against even the possibility of such an accident, I introduced my finger between the dura mater and skull, and then perforated the bone with the trephine. Having thus removed a third piece, which was directly over the principal artery, I took out about four ounces of coagulated blood ; upon which the dura mater quickly rose to its original level, and the hæmorrhage from the wounded artery ceased. I now entirely removed the depressed portion of bone, and thus

thus uncovered all the dura mater which had been detached ; so that I could distinctly feel its connection with the cranium all round. This satisfied me that no more extravasated blood was left behind.—The lad, who at the beginning lay quite insensible, with a feeble, intermitting pulse, and laborious interrupted respiration, became restless, and expressed sensations of pain towards the latter part of the operation. Being now asked, how he found himself? he replied, very well ; Whether his head ached? he answered, no ; If he was sure that he felt no pain? he said he was sure, and wished we would leave him alone.—I now took twelve ounces of blood from his arm, and he was put to bed, where he passed the night quietly. The next morning his bowels were completely emptied by a purge ; and saline medicines, with antimony, were given, so as to keep the skin in a gentle state of perspiration. During the day he was sleepy, and lay quiet ; answered questions very rationally, and complained of pain and giddiness in his head.—The third day he was disturbed, and less rational. Eight ounces of blood were taken

taken from him, and a blister was applied to his neck. These means relieved him greatly, and he became quite tranquil and collected.— On the sixth day, symptoms of irritation again took place, and were again relieved by similar treatment. The dura mater had granulated, and the whole wound looked healthy. Every thing went on remarkably well until the fifteenth day, when the patient was seized with rigor and pain in his head, and the healthy aspect of the wound was also changed. The following day, there was perceived, in the middle of the exposed dura mater, an aperture, through which a protrusion of the brain arose, covered by the pia mater, which retained its natural appearance. In less than 24 hours this tumour increased to the size of an orange; its surface was dark-coloured, and irregular, and the pia mater no longer distinguishable. The following morning the boy died; and his friends had removed the body from the hospital before I knew of his decease.

I regretted very much that I could not examine the nature of this fungus or hernia cerebri

rebri, as it was a phænomenon which I had more than once contemplated with surprise, and the nature of which I was afterwards fortunately enabled to ascertain.

C A S E IX.

A man was knocked down in Smithfield by a brick-bat, thrown at him by some villains against whom he had appeared as evidence upon a trial. He was immediately brought to the hospital; but in a state of profound apoplexy.—The right side of the frontal bone, and the lower part of the parietal, were beaten in; the area of the depressed piece being about two inches in diameter. After making three perforations in the circumference, I was enabled to remove the depressed portion. I then took out a large handful of coagulated blood, which lay upon the orbitary process of the frontal bone, and had so pressed back the anterior lobe of the brain, that I could, with my finger, touch the transverse spinous process of the sphenoid bone. The brain now rose slowly, in consequence, I suppose, of the
blood

blood gradually finding its way through the compressed vessels; and the man began to shew signs of returning sense.—He was bled, and his bowels were emptied by a purge. The next day he was so far recovered as to give an imperfect account of the accident; but on the third day, he died convulsed.

On dissection, some blood was found between the dura and pia mater, and traces of inflammation appeared on the latter membrane.

Mr. Hill, of Dumfries, relates a case (the fifth), where the artery of the dura mater was ruptured without either fracture or depression of the skull; and when he trephined a second time, four days after the accident, he found so large a coagulum of blood lying upon that membrane, as to make him afraid of removing it all at once: but on taking out a few ounces of it, the patient, who had hitherto lain in a state of apoplexy, looked up, on being spoken to, like one awakened from sleep,—knew, and named every body, and raised

raised the arm belonging to the opposite side, which had been paralytic from the time of the accident.

In Mr. Latta's Surgery also, a similar case (as shewn on dissection) is related, in which an uncommon slowness of the pulse, and coma without stertor, were the symptoms produced.

These cases shew that a fracture of the skull is not likely to be followed by an equal degree of extravasation in every part, as the vessels connecting the dura mater to the cranium are, in most parts of that membrane, of a small size. If these are accidentally ruptured, a slight hæmorrhage ensues, which soon stops, and only a thin stratum of coagulated blood is found if the bone be removed. But if the fracture happens in the track of the principal artery of the dura mater; if the trunk, or even a considerable branch of that vessel be torn, the hæmorrhage will be profuse, and the operation of the trephine become

come immediately necessary to preserve the life of the patient. In the three cases that I have related, the operation was done very shortly after the accident: in the first case, the brain was so compressed that it did not regain its level; in the second, it rose slowly as the blood found its way through the vessels; and in the third, it rose quickly, and the functions of the brain were as quickly restored. It can scarcely be doubted, then, that if the operation had been performed in these cases as soon as it became necessary, when, perhaps, only one instead of many ounces of blood were poured forth from the torn vessel, the lives of the patients might have been preserved.

It is of great importance to distinguish accurately the nature of such cases; and the distinction is not difficult when there is an interval of sense between the blow and the stupor occasioned by the effused blood. In the first related case, for instance, the nature of the accident was made sufficiently evident by this circumstance. But though we are
assured

assured that the patient labours under the effects of compression, we cannot, in many instances, know the situation of the compressing cause. In other cases, again, where there is no interval of sense after the accident, we are at a loss to determine whether the senseless state be the effect of compression or of concussion. Every surgeon must acknowledge that it would be a very desirable thing to ascertain when blood is effused between the dura mater and the skull; for if the extravasation has happened in the more interior parts, a surgical operation is not likely to afford relief*. Now, if the extravasation which compresses the brain, be situated immediately beneath the bone, I think there are signs by which it will be disclosed; and as sufficient

* In those cases, which I have seen, where blood was extravasated between the dura and pia mater, and a division of the former membrane was made for its discharge, the serous part of it only could be evacuated; for the coagulum was spread over the hemisphere of the brain, and had descended as low as possible towards its inferior part, so that very little relief was obtained by the operation. It seems then, that extravasation between the dura mater and the cranium is almost the only case which admits of being remedied by the use of the trephine.

notice has not been taken of these, I wish particularly to call the attention of surgeons to them.

I have already said, that, unless one of the large arteries of the dura mater be wounded, the quantity of blood poured out will probably be inconsiderable; and the slight compression of the brain which this occasions, may not be attended with any peculiar symptoms; or perhaps it may occasion some stupor, or excite an irritation disposing the subjacent parts to become inflamed: but both these effects will gradually abate, nor will any inflammation ensue, if proper means are taken to prevent it. It is indeed highly probable, that, in many cases which have done well without an operation, such an extravasation has existed. But if there be so much blood on the dura mater as materially to derange the functions of the brain, the bone, to a certain extent, will no longer receive blood from within; and by the operation performed for its exposure, the pericranium must have been

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separated from its outside. I believe that a bone so circumstanced will not be found to bleed; and I am certain it cannot, with the same freedom and celerity as it does when the dura mater remains connected with it internally. I need hardly say, that, in the cases which I have related, there was not the least hæmorrhage. But it is right to mention, that I have also twice been able, by attending to the want of hæmorrhage from the outside of the cranium, to ascertain the extent to which the dura mater was detached within; and very frequently, when symptoms appeared to demand a perforation of the skull, I have seen it contra-indicated by the hæmorrhage from the bone, and, as the event has proved, rightly.

When the bone has remained long bare, the case may become perplexing. I once scraped a portion of the cranium which had been some time denuded, and found that it bled in such a manner, as sufficiently to point out the adhesion of the dura mater, and of course

course the inutility of employing the trephine *.

Where the extravasation on the dura mater is but small, it will probably not require any operation. A slight hæmorrhage from the bone, which may happen from the anastomosing of the vessels within its substance, will not, in this case, lead to any injurious error. But from what I have observed, I am inclined to believe, that even a small effusion of blood will diminish the hæmorrhage from the superincumbent bone.

Mr. Pott had an idea, that the bone would perish when the dura mater was detached for

* In aged persons, and in those in whom the circulation has been rendered languid by the accident, the mode of distinction which I have pointed out, may indeed be less conclusive.

Although a contrary opinion has been entertained, yet it appears evident, particularly in apoplectic cases, that vessels enter the cranium from every part of the dura mater. To ascertain more fully this circumstance, I have injected the principal arteries of the dura mater with glue (after having removed the upper part of the cranium and the scalp), when the injection has passed through the bone into the vessels of the scalp; and the connection by vessels, which I have alluded to, has been evident in every point.

a considerable space from its inside; and some cases which he has related, seem to favour this opinion: but many other cases to be met with in authors, and many which have occurred to my observation, prove that the opinion was not well founded. Indeed we cannot suppose that the bone would perish from this cause; for it still receives blood, not only from the anastomosing of vessels within its substance, but also from the pericranium externally; and the success which has of late attended the operations for aneurism in the lower limbs, shews that parts of great bulk and vascularity will continue to live when their usual supply of blood is very much diminished. If, however, the dura mater should be detached for a considerable extent from the inside of the skull, at the same time that the pericranium should also be stripped from its outside, I am inclined to believe that a portion of the bone would, in that case, die and exfoliate.

SECTION III.

Cases of Fungus or Hernia Cerebri.

CASE X.

A man, about forty years of age, was knocked down, and had a considerable part of the parietal bone, near the coronal suture, depressed, by a stone falling on his head from a high building. A portion of bone was taken out, and the depressed piece elevated. The patient, after this, seemed to obtain great relief from the stupor under which he had till then laboured. But the next day, he became very restless and delirious, and frequently endeavoured to get out of bed. Evacuations were prescribed, and a blister applied to his head, by which means the symptoms were lessened, but did not entirely go off; they continued near six days, only varying somewhat in degree. His strength was now very much reduced; and though he became more tranquil, he was still delirious, and a coma supervened, which increased daily.—On the tenth day, upon uncovering the wound in or-

der to dress it, a hernia cerebri appeared, rising through an ulcerated opening in the dura mater. The tumour at this time was not larger than a pigeon's egg; the pia mater, stretched over its surface, was inflamed; and a turbid serum oozed at its side, from beneath the dura mater. On the following day, the tumour had acquired the size of a hen's egg, was still smooth on its surface, and apparently ready to burst. On the day after, before the time of dressing, the man died.—Upon examining the tumour now, it was found larger than before, and of a dark colour, with an irregularly granulated surface; which appearance seemed owing to coagulated blood which adhered to its surface, as the part had bled so much, that one half the cap which the man had worn, was rendered quite stiff by it. In raising the top of the skull to inspect the contained parts, the tumour was in some degree torn from its basis. The pia mater was in general much inflamed, and, as well as the dura mater, was deficient at the place where the tumour protruded. A part of this tumour being cut off where it was lacerated, appeared

to consist of coagulated blood of a fibrous texture. The brain was now taken out, and the tumour carefully examined, when it was found to be of the same nature throughout, and to have originated within the substance of the brain, about an inch below the surface ; but I could not discover the open vessel from which the hæmorrhage had proceeded.

The appearances, on dissection, clearly explained the cause of the symptoms which had taken place, and rendered it evident, that the disease under which this man had chiefly laboured, was inflammation of the pia mater. The nature of the tumour, also, was not less satisfactorily pointed out. It was plain, that, in consequence of the brain being injured to some depth beneath the surface, disease of the vessels, and consequent effusion of blood, had ensued ; that the effusion was for a time restrained by the superincumbent brain and its membranes ; but these gradually yielding to the expansive force exerted from within, and at last giving way altogether, the fluid blood oozed out and

congealed upon the surface of the tumour. It appears very probable, that the disease generally described by the term *hernia cerebri*, consists, as in this instance, of a tumour formed by coagulated blood ; for an organized fungus could hardly be produced in so short a time as that in which these tumours are usually formed.

C A S E XI.

A carpenter, while at work in a newly-built house, was crushed by a part of the wall falling in upon him. His abdomen was bruised, his clavicle broken, and his head wounded. Beneath the wounded scalp, the right parietal bone was found fractured and depressed. He was slightly comatose for many hours after being brought to the hospital, yet answered rationally to those questions that were put to him. As the coma, however, remained, and his pulse did not beat with the freedom that is usual, the surgeon under whose care he was admitted, thought it right to trephine him. Accordingly, one perforation being made, the depressed bone was elevated.

No

No blood was found upon the dura mater, nor did any thing indicate the propriety of using the trephine a second time. The patient was largely bled ; and saline medicines, with antimony and opium, were given. As he complained much of pain in his belly, fomentations were applied to this part, and clysters administered occasionally. He was again bled on the second and fourth days after the operation. At the end of a week the antimony was omitted, on account of his weakness ; and he seemed to get rather better, until December 7, twelve days after the accident, when a hernia cerebri appeared, rising through an aperture in the dura mater, opposite to the perforation in the skull. It increased rapidly in size, and exhibited the same appearance described in the foregoing case.—Two days after this, the patient died.

On examining the head, the dura mater was found every where adherent to the skull ; but on its inner layer there was a secretion of pus. The hernia cerebri, which had pushed
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up through an ulcerated opening in the dura mater, was of a fibrous texture, and evidently formed of congealed blood deposited in the medullary part of the cerebrum; the containing cavity being about an inch diameter, and its parietes appearing to be the substance of the brain condensed by pressure. I was equally unsuccessful here in my search after the vessel, whence the blood had issued. The ventricles of the brain were full of a serous fluid mixed with blood, and a large abscess was also found in the spleen.—In this case, the mental faculties were not deranged as in the former. Both the symptoms and dissection shew the disease to have consisted in the effects of concussion, with inflammation of the dura mater, and subsequent effusion into the ventricles of the brain.

The opinion I had formed respecting the nature of *hernia cerebri* was now confirmed; and I think it received additional illustration from the following case, although the disease was in a different part of the body.—A patient

patient in the hospital had a disease in the head of the tibia, from whence there arose an unhealthy fungus, which Mr. Blicke removed; and afterwards, the bone was kept bare by caustic applications, in hopes that a separation of the diseased parts would take place. The patient, however, became feverish, and his health was much impaired. On the cessation of the fever, there suddenly arose, within the wound, a fungus-like substance, about the size of a large apple, which seemed to sprout from the bone; it was of a livid colour, and its surface appeared as if covered with sloughs. I took off the tumour, which was nothing but coagulated blood, with the knife; and some blood oozed from its basis, but the hæmorrhage was stopped by the application of lint. In a few hours, however, a similar fungus-like tumour arose. As both the size and situation of the open vessel were unknown, and as the patient could neither support the loss of much blood, nor the irritation which an extensive wound, made in search of the artery, together with that arising from the diseased

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eased bone, would infallibly produce, it was judged best to remove the limb. This was accordingly done; and upon injecting water into the popliteal artery, it was found to be a branch of that vessel which had given way.

It seems that Paré, and the surgeons who lived about his time, often mistook the tumours that arose out of the cranium, for aneurisms, on account of their pulsatory motion. M. Louis, in the *Mem. de l'Acad. de Chirurgie*, tom. V. has well distinguished the nature and treatment of those proceeding from disease of the dura mater or bone. There may, perhaps, be tumours of various kinds arising from the pia mater and brain; but if there are such, I believe they have not been discriminated; nor have I found an account of any in the writings of authors, which did not resemble those I have described. They have generally been treated of under the name of fungus or hernia cerebri;

cerebri; and if the effused blood of which they consist, ever acquired vascularity, they might then deserve that title: but none of those that I have seen were of an organized structure.—Their formation seems to proceed from an injury done to a part of the brain by concussion or contusion, which has terminated in a diseased state of the vessels, similar to what occurs in apoplexy. The morbid state increasing, one or more vessels give way, and an effusion of blood into the substance of the brain ensues, which, if the skull were entire, would probably occasion apoplexy, but, where there is a deficiency of bone that allows it to expand, presses the surface of the brain and its meninges through the vacant space. The dura mater soon ulcerates, and the tumour pushing through the openings, now increases with a rapidity proportioned to that with which the hæmorrhage takes place within. At last, the pia mater, and the stratum of the brain which cover the effused blood, are so extended as to give way, and the blood oozes out and coagulates.—Thus the quick growth, and all the other phænomena ob-

fervable in these tumours, are satisfactorily accounted for.

It seems probable that similar injuries at other times give rise to the formation of abscesses in the substance of the brain, which are not easily ascertained, and which generally occasion the death of the patient.

The plan of treatment to be adopted with tumours of the kind which I have described, is next to be considered; but as I have had no opportunities of acquiring knowledge as to the treatment of these diseases since I became acquainted with the nature of them, I can only offer a few general remarks on this subject.

Where no bad symptoms precede the appearance of the tumour, or where they go entirely away upon its being freed from the confinement of the dura mater, it may, perhaps, be most prudent not to interfere in the treatment of the complaint: for probably the hæmorrhage will cease, and the coagulum will

will drop off in pieces*, or gradually waste away, and be no more renewed†. All that appears necessary, then, under such circumstances, is to cover the tumour and fore with some mild dressing, carefully avoiding all pressure, which both reason and experience shew is likely to be attended with bad consequences. Should the bulk of the tumour, however, become inconvenient, or render pressure from the dressings unavoidable, the practice which present experience has shewn to be most successful, consists in occasionally paring off the tumour with a knife. In this manner Mr. Hill treated several cases with success.

But if the tumour continues to increase, and if the patient suffers a train of bad symptoms,

* See a case in the *Edinburgh Medical Commentaries*, Vol. I. p. 98, where the tumour continued to increase for fourteen days, and had acquired the size of a goose's egg, when it dropped off in pretty large pieces. A similar case is related in the *Medical Museum*, Vol. IV. p. 463.

† Fabricius Hildanus relates a case in his *Fifteenth Observation*, where the tumour arising from the brain became, in 24 hours, as large as a hen's egg, and afterwards gradually disappeared.

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apparently arising from irritation and pressure made on the brain, some further attempt to relieve him seems to be required. Under these circumstances, we have reason to suspect that the coagulum, from want of room to protrude, is enlarging internally; or that by plugging up the orifice in the bone, it prevents the escape of some fluid collected within the cranium *. The obvious mode of relief here appears to be, to enlarge the opening in the bone in proportion to the extent and increase of the tumour. Many surgeons have

* Mr. Hill, in relating a case of this kind, says that he "was obliged to shave away the tumour, and push a lancet into its root as often as the stupor and other symptoms shewed that matter was lodged there, by which the patient was uniformly relieved, and afterwards recovered."—(See his Cases in Surgery, p. 91—2.) But very different was the event in two similar cases (one is recorded by Scultetus, in his *Armamentarium Chirurgicum*, Obs. XIX.; the other in the *Lond. Med. Journal*, Vol. X. p. 277), in which repeated attempts were made to prevent the growth of the tumour by compression: one patient died at the end of a month; the other not until nearly six months after the accident. In the brain of each there was found, upon dissection, a large cavity, which had been formed by the accumulation of a fluid that could not escape, on account of the aperture in the bone being closed by the tumour.

objected

objected to the removal of much of the cranium, lest protrusions of this kind should ensue; but it is evident that these tumours arise from an injury and consequent disease of a part of the brain, the event of which must be more fatal if the bone was entire. A large removal of bone was formerly a frequent event; but a protrusion of this kind very seldom took place.

But although, by thus allowing a free escape to the effused blood, we may prevent the injurious effects of its pressure on the brain, yet the degree of hæmorrhage may endanger the life of the patient.

The quantity of blood effused will depend on the magnitude of the vessels, or on their disposition to bleed. As the disease is generally situated not far beneath the surface of the brain, there is less risque of its proceeding from the former cause. If it arises from the latter, it is very likely that the distention caused by the confinement of the effused blood would irritate the vessels, and keep up
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their disposition to hæmorrhage ; therefore the treatment already recommended is likely to diminish it. But should the quantity of the hæmorrhage seem to threaten the life of the patient, I should think it most proper to take away the coagulum, and to expose the cavity in the brain, in order to learn whether suffering some sudden loss of blood to take place, together with the exposure of the bleeding vessels, might not produce a beneficial change, and a cessation of the hæmorrhage. I am induced to propose this mode of conduct, from reasoning founded on analogy ; for in other parts of the body a hæmorrhage will sometimes continue, notwithstanding a considerable pressure made by a large quantity of coagulum, together with that which the resistance arising from the closure of the external opening, and that which is occasioned by the dressings, conjointly produce. Yet, upon exposing the bleeding surface, the hæmorrhage will cease, and never afterwards be renewed.

I am still further induced to propose this plan of treatment, because I do not perceive
any

any other which carries with it a probability of success. The impropriety of attempting to restrain the hæmorrhage by pressure has been shewn; ligatures cannot be applied, and styptics are known, by experience, to be dangerous.

I shall extract one case from the first volume of the *Memoires de l'Academie de Chirurgie**, to shew that the removal of the coagulum is not likely to be attended with any alarming consequences.---A young man received a blow on the right parietal bone, which occasioned a fracture; some bone was removed, and a hernia cerebri was afterwards produced, which was repeatedly pared down with the knife. On the thirty-fifth day from the accident, the patient having intoxicated himself, while in this state, slipped his hand under the dressings, and laying hold of the protruding coagulum, tore it away with violence. The next day the surgeon found, that almost the whole of what he considered as corrupted brain, was removed, and a vacancy left, so deep, that he could see nearly to the

* See the Memoire of Mr. Du Quesnay, 10th Observation.

corpus callosum. From this time forward the parts went on healing, until they got quite well; but the patient continued to labour under a paralysis of the left side, which had supervened the day after he received the blow.

It is obvious, from the nature of the substance of which the tumour is composed, that styptic remedies applied to its surface can have scarcely any effect in lessening its bulk, and none at all in putting a stop to its growth; and experience shews, that the more active of them are not only ineffectual, but highly dangerous. Hildanus, in his Fourteenth Obs. relates the case of a man who died in consequence of an empiric having dressed a tumour of this kind with alum and calcined vitriol. And Mr. Hill tells us (p. 198), that, after shaving off the protruding part, he once sprinkled the basis with some blue vitriol, and another time with red precipitate; but found that "his patient had a very bad day after each of these;" no doubt, in consequence of their being dissolved in the discharge, and insinuating themselves between the tumour and the edges

edges of the skull, so as to get into contact with the sensible parts within ; for, that it was not owing to their effect upon the tumour, is evident from the freedom with which he had removed it with the knife.—Whether, in the case of the hæmorrhage continuing after the coagulum has been removed and the vessels exposed, any of the vegetable astringents diluted, such as infusion of galls, might be successfully applied to stop the bleeding, is a question which future experience must determine.

S E C T I O N I V .

Concussion of the Brain.

As I am of opinion that the effects of concussion have not been justly described by authors, and as the symptoms related by them are not, according to my experience, those which usually occur, I have therefore selected two cases out of a great number that I have seen, in order to shew what have appeared to me the common consequences of this injury ; and I shall afterwards offer some remarks respecting the treatment of this disease.

C A S E XII.

Harriet Silverthorn, aged twenty-three years, slipped down stairs, and struck her occiput against some of the lower steps, by which the integuments were divided about half an inch in length, but the wound was not deep, nor were the surrounding parts much bruised. She was taken up senseless, was bled, and the next morning conveyed to St. Bartholomew's Hospital. When brought in, she was comatose; could not be made to answer any questions; yet she drew back her arm when pinched, and seemed very uneasy when the wounded parts were pressed upon. Her breathing was without stertor, but performed at some interval, as if she did not wish to inspire until obliged by necessity. The pulse, which was full and labouring, intermitted every fourth or fifth stroke.—Eight ounces of blood were immediately taken away, and an opening medicine given, which procured three stools, after which she was ordered a mixture, containing aqua ammoniæ acetatæ, and antimonial wine.—The next day (*Friday*), she was rational,
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put out her tongue when desired, and said she had no pain in her head; her breathing was more regular, and her pulse free from intermission. (*Saturday,*) she was still more sensible, and gave some account of herself; complaining now of head-ach, and general uneasiness. The mixture was continued, the purging medicine given again, and a blister laid on between her shoulders.—(*Sunday,*) her pulse was harder; she was sensible, but restless; complained of pain in her forehead, sat up in bed, and wanted to go home. Six or eight ounces of blood were taken from her temples, and the mixture ordered to be continued as before.—(*Monday,*) she was much more composed; but as she had still some pain in her head, a blister was applied to it.—(*Tuesday,*) she had slept quietly during the night, answered rationally, but with quickness, and eagerly desired to go home. As the blisters appeared to have been serviceable, that on her neck was renewed.—(*Wednesday,*) she was perfectly quiet, and in every respect better; nor had she, after this, any complaint worth mentioning.

C A S E XIII.

A Frenchman, twenty-seven years of age, who had been many years in England, and (as it afterwards appeared) spoke our language perfectly, had met with some accident (but in what manner, I know not), in consequence of which he was brought to the hospital. He was then very comatose, and expressed much uneasiness at being roused from that state; yet he put out his tongue when bid, but did not give a rational answer to questions put to him, and his replies were made in his native language. His pulse was regular, strong, and about 96 in a minute. Ten ounces of blood were taken from his arm; and after being purged, the common saline mixture, with antimonial powder, was ordered to be given. In the night, he grew delirious, got out of bed, and tore the bandage from his arm; in consequence of which he lost a good deal of blood before it was perceived. This, however, seemed of use to him; for he became more tranquil after it, and lay quietly dozing till morning. Next day, he was more rational, and complained of pain in his head. When I

told him that if he kept quiet, he would soon be well, he said, he hoped so; and appeared solicitous to know what should be done to him. His pulse was only 80, and not strong. A gentle laxative was given, and a blister applied to his head.—On the third day, he was much more sensible, spoke with clearness, and mentioned the pain being in the fore-part of his head; yet, when I asked his age, he told me he was but sixteen years old.—*Tuesday* (fourth day), he appeared more excited and wild; his tongue was dry, but his pulse only 75. Nine ounces of blood were taken from the temporal artery.—Fifth day, his pulse was only 70, and perfectly natural; yet he had pulled off the dressing from his blisters, and seemed to be very irritable.—Sixth day, still pain in his forehead, pulse rather quicker, but tongue not furred. After this, he gradually recovered, without any particular symptom occurring, and without any other medical treatment.

It is not likely that, in either of these cases, extravasation, at least to any considerable degree,

gree, had taken place within the head, since in neither of them was there stertor, dilatation of the pupils, or insensibility. They may, therefore, I think, be considered as exhibiting the symptoms which attend simple concussion. I have related them, to shew the circumstances, upon which the reasoning that follows is grounded.

The opinions that prevail amongst surgeons respecting the treatment of concussion, are very different. Many late writers advise stimulating cordials, such as wine and volatile alkali, to be given; while others pursue a directly opposite conduct. Nor do they agree in the account of the symptoms, which they consider as depending on this species of injury. Most writers represent the subject, as if the deranged state of the brain, which is the immediate consequence of the shock, continued to the termination of the patient's illness or life; while, in the cases given by Mr. Pott, the symptoms appear to proceed more from the inflammation which ensues, than from the concussion.

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The whole train of symptoms following a concussion of the brain, may, I think, be properly divided into three stages. The *first* is, that state of insensibility and derangement of the bodily powers which immediately succeed the accident. While it lasts, the patient scarcely feels any injury that may be inflicted on him. His breathing is difficult, but in general without stertor; his pulse intermitting, and his extremities cold. But such a state cannot last long; it goes off gradually, and is succeeded by another, which I consider as the *second* stage of concussion. In this, the pulse and respiration become better, and though not regularly performed, are sufficient to maintain life, and to diffuse warmth over the extreme parts of the body. The feeling of the patient is now so far restored, that he is sensible if his skin be pinched; but he lies stupid, and inattentive to slight external impressions. As the effects of concussion diminish, he becomes capable of replying to questions put to him in a loud tone of voice, especially when they refer to his chief suffering at the time, as pain in the head, &c.; otherwise, he answers incoherently,

rently, and as if his attention was occupied by something else. As long as the stupor remains, the inflammation of the brain seems to be moderate ; but as the former abates, the latter seldom fails to increase ; and this constitutes the *third* stage, which is the most important of the series of effects proceeding from concussion.

These several stages vary considerably in their degree and duration ; but more or less of each will be found to take place in every instance where the brain has been violently shaken. Whether they bear any certain proportion to each other or not, I do not know. Indeed this will depend upon such a variety of circumstances in the constitution, the injury, and the after-treatment, that it must be difficult to determine.

With regard to the treatment of concussion, it would appear, that in the first stage very little can be done ; and perhaps, what little is done, had better be omitted, as the brain and nerves are probably insensible to any stimulants

mulants that can be employed. From a loose, and, I think, fallacious analogy between the insensibility in fainting, and that which occurs in concussion, the more powerful stimulants, such as wine, brandy, and volatile alkali, are commonly had recourse to, as soon as the patient can be got to swallow. The same reasoning which led to the employment of these remedies in the *first* stage, in order to recall sensibility, has given a kind of sanction to their repetition in the *second*, with a view to continue and increase it.

But here the practice becomes more pernicious, and less defensible. The circumstance of the brain having so far recovered its powers, as to carry on the animal functions in a degree sufficient to maintain life, is surely a strong argument that it will continue to do so, without the aid of means which probably tend to exhaust parts already weakened, by the violent action they induce.

And it seems probable that these stimulating liquors will aggravate that inflammation which
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must sooner or later ensue. The access of it, in the cases which I have related, is sufficiently evident ; and its cure is to be effected by the common methods. The great benefit of evacuations was, in those cases, very evident. Indeed, it appears to me, that there is no complaint which requires such means to be more rigorously prosecuted, than an inflammation of the brain or its membranes. But as I design to relate some cases, with a view to elucidate the symptoms which attend that disease, I shall postpone any further remarks on this subject.

In addition to the reasoning which I have offered here, I would observe, that surgical books abound with cases in which suitable evacuations have been freely employed in concussion, with the best effects ; while the advocates for a contrary practice have rested their arguments upon vague theory, and communicate no particulars of their success.

If the foregoing cases exhibit the genuine marks of concussion, the administration of
cordial

cordial medicines, which has been so much recommended, appears to be very ill adapted to the relief of such an injury. In what case then does this treatment seem advisable?—The following, which is a case of simple concussion, and so violent in degree as soon to prove fatal, is related, that the reader may judge what conduct ought to be pursued in such circumstances.

C A S E XIV.

W. Thomas, about thirty years of age, fell from the top of a brew-house, a height of at least 80 feet. His hand being stretched out, first sustained the shock, by which the carpal bones were separated, and driven upwards, some before, and others behind the ends of the radius and ulna, the articular surfaces and periosteum being at the same time forced off the latter bones. I mention these particulars to shew the great violence of the fall. The man's head afterwards struck the ground, as appeared by a bruise on his face; but the cranium

nium was not injured. When brought to the hospital, he appeared almost deprived of life, his body being cold, and his pulse scarcely to be felt. The gentlemen then attending, put his feet into warm water, and gave him an opiate.

After this he gradually became warmer, and it was observed that there was not much dilatation of the pupils, and but little stertor in respiration. I saw the patient next morning, at which time his skin was very hot, and he perspired copiously. His breathing was repeated at regular intervals, but the expirations were made with unusual force. The pulse was extremely irregular, both in frequency and in strength; generally about 140 in a minute. His pupils were moderately contracted, his eye-brows drawn into a frown as if he suffered pain. When I spoke to him softly, he did not answer. I pinched his hand slightly, but he did not move; but when I repeated this a little harder, he drew it away with seeming vexation. He disliked
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that his eyes should be examined. When, by speaking loud, I roused him, and inquired if his head ached, he answered, Yes. I got him to swallow some opening medicine, which emptied his bowels; and four leeches were applied to his temples; but they extracted very little blood, and I thought his pulse countermanded any further evacuations.

In the afternoon, he appeared better. His pulse was more regular, and his skin of a more natural temperature; his pupils, however, were more contracted, and his sensibility increased. I tried the effect of giving him forty drops of tinct. opii, thinking it might diminish sensibility, and keep him quiet for some time, during which the vascular system (which seemed to be particularly deranged) might perhaps regain its powers. The opiate increased his disposition to sleep, and he appeared to suffer less pain; but in the evening, his pulse was more feeble and frequent, and his skin hotter, and quite wet with perspiration. Wine was now given to him, but without any apparent benefit; the powers and actions of life gradually diminished, and before morning he died.

On dissection, there appeared every mark denoting violent inflammation of the brain and pia mater, of short duration. The minute arteries of the pia mater were turgid with blood; in many places there was the appearance called blood-shot, which was also to be seen in the lining of the ventricles. Dark-coloured, and in some places, bloody, coagulable lymph filled all the recesses between the tunica arachnoidea and pia mater. On dividing the substance of the brain, all its vessels appeared as if injected with blood.

I am inclined to believe that the medical treatment of this patient did him neither much good nor harm. The means employed seem to have acted on him as on a person in health. The opening medicine rendered him cooler, and quieted a little the disturbed actions of the system. The opiate made him more still, and disposed him to sleep.

I leave it to practitioners to consider, whether cordials would have been of any service in this case. Would they not rather, by stimulating the nervous system, have increased

the disturbance of the sensorium, and, by exciting the heart and arteries, have tended to aggravate the inflammation of the brain?

It has hitherto been considered as a desirable object, to point out any marks by which we might distinguish between compression and concussion of the brain; but I believe no such criteria have yet been communicated to the public. I think, however, that these diseases may in general be distinguished. As far as my observation goes, the insensibility is much less in concussion, especially after a short time has elapsed. Patients in this case, though they seem reluctant to answer questions, yet complain much if their heads are moved; and in those instances where it was judged necessary to inspect the bone, I have generally found that they made great complaint during the operation. The pupils also are usually more contracted than in compression of the brain, the muscles of the limbs retain their natural state of tone, and respiration is performed with

little or no stertor*, though the pulse generally intermits in a very considerable degree. In the slighter cases of concussion, the sickness of the patient is often very great.

But, in cases of compression of the brain, circumstances, very much the reverse of those just related, take place; the sensibility is much diminished in proportion to the degree of the injury; from this cause also the pupils are dilated, and the limbs relaxed; the respiration is attended with stertor; and the pulse, as far as my observation extends, is subject to much less intermission.

S E C T I O N V.

On Inflammation of the Pia Mater.

Although inflammation of the pia mater is too frequent a disease to need illustration by the relation of cases, yet I take the liberty of

* But the absence of stertor must not be relied on as a proof that there is no compression; for Morgagni relates dissections of apoplectic persons, where the effusion was considerable, yet no stertor had occurred; and I have seen cases where it took place only in a very slight degree.

relating one, in order to recall to the remembrance of the experienced, the train of symptoms which are likely to occur in this complaint, and to impress the nature of them on the minds of students ; when I shall afterwards offer those remarks which I have been able to make from my own opportunities of observation.

I am induced to take this subject into consideration, from a persuasion, that, if it were omitted, a considerable deficiency would appear in this Essay.

C A S E X V .

A man, between thirty and forty years of age, whose head had been crushed between a cart-wheel and the wall, was admitted into St. Bartholomew's Hospital, under the care of Mr. Pitts. The integuments of the cranium, and the upper edge of the temporal muscle, were both torn, and much bruised. The patient was sensible when received into the house. He was immediately bled, and took a purgative medicine. The next day he com-

plained of considerable pain in his head; upon which saline medicines, with antimony, were prescribed. On the third day he was worse; and on the fourth he became delirious and frantic; he frequently endeavoured to get out of bed, and struggled violently when prevented. I now, for the first time, saw the patient, by the desire of Mr. Pitts, who was gone out of town. The progress and symptoms of the complaint clearly shewed that it was an active inflammation of the pia mater. The patient was therefore bled largely, and a blistering-plaster applied over the greater part of his head. The next day he was quieter, and more disposed to coma; but when roused, he was still irrational and impatient. On the following day (the fifth), the coma had increased much; and as the bone was laid bare by the wound, it was thought right to expose it more extensively, in order to see if the state of it indicated the propriety of applying the trephine. I accordingly removed a little of the sloughy temporal muscle, beneath which I found the pericranium naturally adherent. I also scraped the denuded bone, and found
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that it bled freely in every part. This circumstance contra-indicated any operation, and confirmed me in the opinion which I had formed of the disease, viz. that it consisted of active inflammation of the brain and its membranes. Two days after this the man died. On dissection, the dura mater was found every where naturally adherent; the pia mater was much inflamed, and a considerable quantity of turbid fluid was collected between these two membranes, and also in the ventricles of the brain*.

In the instance just given, of this very frequent disease, the distinct interval which occurred between the immediate consequences

* When the former part of this Essay was printed, I designed to have printed three cases in which inflammation of the pia mater proved fatal, in order to have shewn some varieties in the symptoms of that disease; but two of them have been omitted for the sake of brevity; in one of which the inflammation began on the third day after a small portion of the skull had been beaten in, though the depressed part was immediately elevated. This case has been alluded to in a former part of this Essay.

of the injury and the subsequent fatal inflammation, renders the nature of the case particularly clear. This, however, does not always happen ; and when it does not, the inflammation is frequently confounded with the immediate effects of concussion.

The inflammation of the dura mater, which occasionally succeeds to injuries of the head, has been well described by Mr. Pott. Patients labouring under this complaint are feverish, have a constrictive pain in the head, but continue rational, and give a clear account of their symptoms, until matter forms, or inflammation of the internal parts ensues. This is what we might naturally expect from the structure of the dura mater, the manner in which it is supplied with blood, and its vessels having little connection with the brain. When the pia mater becomes inflamed, as the brain derives a considerable portion of its blood through the vessels of that membrane, the disease is instantly communicated to the cerebrum, and deranges its functions. This derangement varies in its nature and degree, accordingly as
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the inflammation of the pia mater is more or less violent; as it is confined to the surface, or extends to the internal parts; as it produces a greater or smaller secretion of fluid which compresses the brain; or as it is more or less blended with the effects of concussion. The state of the patient will vary considerably under these different circumstances. If the inflammation be violent and general, the patient will be irrational and disturbed, having his mind strongly affected by wrong ideas, and endeavouring to act in consequence of them. If the inflammation be moderate, and affect the surface only, he will be irrational, uneasy, restless, and perhaps endeavour to get out of bed, but without the violence of mania. Should a moderate inflammation be blended with the effects of concussion, he will have less appearance of irrationality, will lie pretty quiet; and inattentive to slight impressions, as appeared in the cases related.—I am not able to particularize every variety that may occur in the symptoms; but in all, there must be more or less derangement of the powers, both mental and corporal, depending upon the degree

degree of inflammation*.—The symptoms which chiefly characterize the complaint, are those of an increase of sensibility; the pupils of the eyes are contracted; the patient often withdraws his arm on being touched, and his pulse and tongue denote general as well as local inflammation. It seems of the utmost importance, that those means which in general cure inflammation, should be prosecuted very vigorously at the commencement of this complaint, since otherwise, although they may check, they will not overcome it. Large blood-lettings, brisk purging, and extensive counter-irritation by blisters, ought to be employed at the very commencement; for, if omitted, then the disease will become established, and the powers of the body will soon be too much sunk to admit of the same active treatment at a later period.

* An unusual infirmity of the bodily powers is sometimes observed, accompanied with tremors, low delirium, and exceedingly rapid pulse; yet, on dissection, a slight inflammatory appearance of the pia mater and brain is all that can be discovered. Such a state sometimes occurs after an abscess has formed in the brain.

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I have here represented the general effects of inflammation of the pia mater when it arises from previous violence. In other cases indeed, where it comes on, as it were, spontaneously, or without any powerfully exciting cause (in which case it generally falls under the care of the physician), it has appeared to have affected the brain but little, and to have been very slow in its progress, and inactive in its nature. In such cases it has produced a deposition between the tunica arachnoidea and the pia mater, or a collection of serum between the former membrane and the dura mater. Under these circumstances, I have learned that the rationality of the patient has been scarcely deranged. And as such a state of disease may occur after an accident, I have therefore thought it right to mention it in this place.

Cases of Disease of the Bone and Dura Mater.

The diseases of the cranium, and consequent affections of the dura mater, have been well described by some French and German surgeons.

surgeons*. But as they have not, I believe, been explained by English writers, I shall confirm the accounts which we have received of them, by additional cases; and afterwards offer some remarks on this subject.

C A S E XVI.

A man, between thirty and forty years of age, was salivated for complaints in his head, supposed to be venereal. There were two tumours of the scalp; one a little before the coronal suture, and the other a little above the posterior superior angle of the left parietal bone. The man's health was greatly reduced by the course of medicine he had undergone, as well as by the disease, which had considerably increased during the use of mercury. The integuments covering the posterior tumour, had ulcerated; and a probe could be passed under them so as to discover a confi-

* Vide Mons. Louis' Memoire, in the fifth volume of the Mem. de l'Acad. de Chirurgie, and Haller's Disputationes Chirurgicæ.

derable extent of bare and carious bone. The surgeon, under whose care he was admitted into the hospital, divided the integuments, and perforated the diseased bone, which was found separated from the dura mater. That membrane also had a very morbid appearance, being covered with a soft substance of a dirty reddish colour. On pressing down the dura mater with a probe, to see if it was detached to any extent, nearly a table-spoonful of healthy pus issued from beneath the bone, about an inch behind the part perforated. The surgeon thought this might be sufficient to relieve, and therefore deferred making another perforation. But the man, who had lain stupid, though not irrational, and had subfultus tendinum accompanied with great debility, grew shortly after delirious; in which state he continued about two days, when he became convulsed, and died.

On dissection, purulent matter was found on the dura mater beneath both the carious portions of bone. The membrane also, which
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was detached, was much thickened, so as in some degree to indent the surface of the brain. The pia mater was generally inflamed; and a larger quantity of fluid than usual was found in the ventricles.

C A S E XVII.

An old man was admitted into the hospital for a complaint of giddiness and pain in his head. Upon examination, a tumour was perceived over the left parietal bone, into which an incision was made, and a good deal of matter discharged. The pericranium was found to be detached for three inches in length, and two in breadth. In the middle of the bare bone, which seemed to be dead, and really was so, granulations of a healthy appearance had sprouted up. These arose from the dura mater, and had made their way through the bone. The patient's health, which was moderately good at the time of his admission into the hospital, gradually declined; and, after about six weeks, the pain in his head became particu-

particularly severe. From this time he became gradually comatose, took no food, and soon died.

On dissection, the dura mater, beneath the carious bone, was found detached, and had granulated. Much pus lay between the left hemisphere of the brain and the falx; and the whole of the dura mater covering the right hemisphere was lined with healthy pus, which adhered to its surface, and appeared to have been secreted by that membrane.

The cases of diseased bone which require perforation of the cranium, have not been sufficiently treated of by any English writer. Mr. Pott has, indeed, noticed the disease and death of portions of the skull, that succeed to contusions; but he has not sufficiently explained the affections of the membranes of the brain, which even these diseases sometimes occasion. The circumstance which seems particularly to have attracted his attention, is the inflammation and suppuration in the diploë, which proceed from injury done to the bone.

bone. The existence of that complaint, however, is easily known; for while there is a fixed pain in that part of the bone, there is no general inflammation, or but very little, of the dura mater. The disease continues, too, a much longer time without producing any seriously bad symptoms, than any disorder of the internal parts could do. When matter is formed in the diploë, the pericranium will certainly separate from the bone, and the external table of the skull will undoubtedly perish. In a case so clearly marked, the conduct to be pursued is obvious, which is, to remove a portion of the external table with the trephine, so as to discharge the matter collected in the diploë, without which no relief can be obtained. I have seen, in several cases where the operation was performed early, that the external table came away within the circle of the trephine, the matter was discharged from the medullary part of the bone, and the internal table remained sound and entire, covering the dura mater. Granulations soon arose, and the patients got well, with the exfoliation only of a portion of the outer table. The mischievous

chievous consequences of delaying the operation when once the disease is known, must be evident; for the matter collected within the bone, having no natural outlet, will press on every side, first gradually destroying the diploë, sometimes extending itself over almost the whole of the cranium, and at last occasioning the partial absorption of both tables, so that the skull after death shall be found perforated with a number of holes, like a piece of worm-eaten wood. These holes afford a discharge to the matter, which not only oozes out beneath the pericranium, but also insinuates itself between the skull and dura mater; till at length the patient sinks, worn out by the irritation and fever which this painful and extensive disease creates; unless, as it sometimes happens, he is previously destroyed by inflammation attacking the membranes of the brain.

Suppuration of the diploë, and the death of a portion of the bone, are the common effects of injury done to the cranium; and such a morbid state may indeed occur at some distance

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stance of time from the receipt of the injury. But the disease which the cases represent, generally arises without an obvious cause. An affection of the dura mater is almost the necessary consequence of such a disease in the bone. In syphilis it probably takes place later than in any other instance ; for that disorder attacks the outside of the skull, which it gradually destroys ; the inner table and the dura mater remain sound till the last. But when, as in the complaint I am now considering, the whole bone is involved in disease, we can no more expect that the dura mater should remain unaffected within, than that the pericranium should continue sound and attached without ; for that membrane may be regarded as the periosteum to the internal table of the skull. It is well known that, in general, the dura mater separates, and becomes thickened from a deposition and subsequent organization of coagulable lymph between its layers. This thickening is sometimes considerable, so as to form a tumour which causes an indentation in the cerebrum ; as happened in a very remarkable degree in the case of the
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Sieur le Gallois, related by M. Louis*. Sometimes the dura mater secretes pus, which being confined within the cranium, produces inflammation of the brain, &c. At others, granulations arise from the irritated membrane, and, making their way through the bone, form those tumours so well described in the Memoir just referred to. This took place in one of the cases I have related; and is a remarkable instance of the power which granulations possess of removing bone. The disease, however, does not confine itself to the part first attacked; for if the irritated state of the dura mater be not appeased, thickenings will take place in other parts of that membrane; or the inflammation becoming more extended, suppuration may be produced even over the opposite hemisphere of the brain, as happened in both the cases which I have related.

I do not mean to say that in every case of diseased cranium, even where both tables of the skull are equally affected, the perforation of the

* See Mem. de l'Acad. de Chirurg. tom. V. It also took place more slightly in one of the cases which I have related.

bone is indispensably required. I know it often happens that the bone exfoliates, without any bad effects having been produced.

But surely no surgeon, who perceives the danger of delay, would hesitate to remove all the dead portion of bone, if symptoms denoting general irritation of the dura mater take place. The best event that can be expected, is, that the bone will at length exfoliate without much pain to the patient, or injury to his constitution. By removing the dead bone, and giving an early and free discharge to any matter collected beneath it, the irritation which it occasioned will be taken away, the diseased state of the dura mater will gradually subside, and healthy granulations arise from its surface; nor will any farther disease occur in other parts of that membrane. M. Louis tells us, at the conclusion of the Memoir already quoted, in what manner experience had taught him to treat fungi of the dura mater. He says that “ the whole of
“ the tumour should be exposed, which cannot happen till the bony circle which con-
“ ceals

“ ceals its basis, is removed ; and that afterwards means should be employed to destroy the fleshy excrescence*.” Although the destruction of the fungus might be proper for the sake of expedition, and although it can perhaps be attended with no harm, by whatever means effected ; yet it may not be necessary. Like other animal fungi, it will probably cease to grow, and soon disappear, when the irritation which occasioned it has been removed.

In cases of tumours forming within the skull, it is of consequence to determine from what part they proceed. In general, they will be found to spring from the dura mater, and to be the effect of disease in that membrane, induced and kept up by irritation. Surgeons have endeavoured either to reduce them by caustic ; to restrain them by pressure ; or to take them off by ligature or the knife :

* The excellent effects of such bold but judicious practice are well shewn in a case related in the 9th Paper of Haller's *Disputationes Chirurgicæ*, Vol. I. in which a piece of diseased bone, six inches and a half in circumference, was removed.

and the excrescences have either ceased or continued to grow, according as the irritation which gave rise to them has been removed or not. If the former happened, the surgeon has sometimes attributed undeserved merit to the means he had employed for the cure.

Those tumours which come from *within* the dura mater, may possibly differ in their kind in different diseases; but all that I have ever seen were of the same nature; and those have been described in a former part of this Essay.

What I have written must appear very deficient, if it be considered as regarding the effects of injuries of the head in general. But my intention has been only to endeavour to illustrate particular points of practice, by a relation of cases selected from a considerable number of each kind.

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SINCE my former publication on this subject, I have met with several interesting cases, which I shall now relate, together with the conclusions drawn from them, in the order in which they occurred.—It may not be improper, however, previously to mention, that George Tucker, the person on whom I first tried this method of discharging the matter without leaving a permanent opening in the cyst, and whose body I have, not long ago, had an opportunity of examining, never had the least return of his complaint. After quitting the hospital, he travelled over a considerable part of England

for two years, during which time he lived very irregularly. When I next saw him, he had come up from Portsmouth to get into St. Bartholomew's Hospital, on account of an ulcer on the prepuce, accompanied with erysipelatous inflammation and sloughing; for which he was admitted, and soon got well. In relating his case, I have said that he had a constant cough, and probably diseased lungs. This opinion has since been verified; for, about a year and a half ago, he was seized with hæmoptysis, of which he died. When I opened the body in order to inspect the seat of his former complaint, I found some difficulty in raising the peritonæum from the psoas and quadrati lumborum muscles, owing to a thickened state of the cellular substance connecting these parts; but the alteration was so inconsiderable, that I believe it might have passed without notice in the ordinary dissection of the body.—The spine had never been in the least diseased.

C A S E I.

The next case which I had occasion to see after those already related, was that of Charles White, a patient of Mr. Blicke's, at St. Bartholomew's Hospital. This man, who was thirty-six years of age, and not unhealthy, had a lumbar abscess, which presented beneath the fascia of the thigh, and which there was no reason to suppose connected with any disease of the spine. From this abscess I discharged, by puncture, twenty-four ounces of healthy pus, and healed the orifice. The patient suffered some weakness and derangement of health; but they were not considerable. The operation was repeated every fortnight; and, by the fifth time of performing it, the quantity had decreased to four ounces. At the end of another fortnight, I made the opening to discharge the matter, larger than common, and did not attempt to unite it, but directed a poultice to be applied to the thigh, and the patient to be kept in bed. No perceptible derangement in his health took

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place in consequence of this. The lips of the wound granulated, which, I think, is always a good sign; the fascia seemed to adhere to the parts beneath; and in the course of a month he was thought well enough to leave the hospital, although there was still some matter discharged from the wound. In a few weeks more, the part was entirely healed; nor had he afterwards any return of the complaint.

C A S E II.

—— Harris, thirty-five years of age, had a considerable collection of matter beneath the integuments of the abdomen, forming a moderately prominent tumour, about three inches in diameter, and seated just above Poupart's ligament. The patient had suffered a great deal from pain in his loins; and the motion of the thigh had been much impeded, but was now tolerably free. Indeed there was no doubt that the matter had been originally formed in the loins; from whence it was violently impelled, so as to elevate the prominent integuments of the abdomen, whenever he coughed.

coughed —By permission of Mr. Long, under whose care he was admitted into the hospital, I punctured the tumour, and discharged about 24 ounces of pus, mixed with some flakes of a curd-like substance. The wound healed readily, and no considerable alteration of his health ensued, though he found himself weaker for some days after the operation. —At the end of a fortnight, I made a second puncture, and let out between six and seven ounces of a turbid fluid. He now thought himself so much better than' after the first evacuation, that he went out of the hospital; but returned again at the expiration of a fortnight, when, by a third puncture, six ounces of purulent matter were discharged; and, after another week, four ounces more were let out. A caustic was now applied to his loins, and four or five peas used to keep the ulcer open; from which time no matter could be discovered in the abscess during the six weeks that he remained in the hospital.

About eighteen months after this, he was admitted into the hospital on account of a fever
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and fore throat ; and it appeared he had never experienced any farther complaint in his loins.

This case, I think, is very interesting, inasmuch as it contributes to prove that the cavity of a lumbar abscess may be entirely obliterated without the cyst undergoing any of those changes which generally take place when it is laid open.

C A S E III.

William Hankes, when about twenty-eight years of age, had a collection of matter formed in his loins, which descended beneath Poupart's ligament, and elevated the fascia of the thigh. The formation of this matter had not been attended with pain ; neither were the motions of the thigh impeded during its collection. The elevated portion of the fascia was about three inches in length, and two in breadth ; and the impulse communicated to it from the loins, on coughing, was distinct, though not very forcible.—I punctured the abscess, and
discharged

discharged twelve ounces of pus, in which there were some flakes of coagulum. The wound healed speedily, and the patient not only suffered no inconvenience, but even found himself better than before the operation.—After three weeks' time, the matter which was collected gave so little prominence to the fascia, that, when I punctured it, I was apprehensive of injuring the subjacent parts; and not more than between five and six ounces of pus flowed from the orifice on this occasion.—As the quantity of matter contained in the abscess at first was small when compared with that in many other cases which terminated well, as the patient also was young, and apparently capable of sustaining the degree of irritation likely to ensue, I thought there was no great risque in leaving the orifice unclosed. Accordingly, a poultice was applied over the part; and I hoped that, by thus endeavouring as much as possible to lessen inflammation about the wound, I might prevent any considerable degree of it from taking place in the cyst. For some time the fascia felt sore, and was painful when the integuments were pressed;

pressed; but this tendernefs abated in about ten days; the difcharge alfo leffened, and there appeared ground to hope that the patient would foon get well. He was now attacked with pain in his loins, accompanied by fever: the difcharge alfo increafed, and had a fetid fmell. Thefe fymptoms, however, gradually abated, but left the patient greatly reduced in ftrength. After a fhort interval, he again experienced a fimilar relapfe and recovery, by which his weaknefs was ftill farther increafed. He had been occasionally troubled with cough, which now became very conftant, but without any expectoration; and I obferved that he drew in very little air when he infpired.—As the abfcefs difcharged largely, and the ftrength of his conftitution was rather declining, I made a large iffue in the integuments of his loins, with a view to leffen the internal difeafe. This feemed to be of great fervice; for the pain of his loins went off, and the difcharge from the abfcefs abated gradually, and at laft became inconfiderable. Still, however, he did not recover his health; and the country air was now recommended by Dr. Latham, who

who had prescribed for him, during his illness, those medicines which his disorder seemed to require. He accordingly left the hospital, and, at the end of ten months, returned to town; when the wound in his thigh still continued to discharge a small quantity of matter. Afterwards, a thickening of the integuments on the front of the thigh took place; and two or three small ulcers formed there, which did not readily heal, but were sometimes in a better and sometimes in a worse state.—I saw him occasionally, for two years, during which time he had tried the effect of sea-bathing. His health, however, was not good, though it did not appear to me to suffer from the remains of the abscess, which neither occasioned pain nor hindered his walking. At last, his strength declining, he was again admitted into the hospital, under Dr. Latham's care. He was now much troubled with cough, and hectic fever; and, under the fascia of the other thigh, opposite to the dorsum of the ilium, a fresh abscess appeared, which, however, had no communication with the abdomen. The powers of his constitution were

now evidently broken, and he gradually sunk, and died.

Being greatly hurried for time during the only opportunity I had of inspecting the body, my examination of it was very cursory. I can, therefore, only say that both lungs were irregularly and generally indurated; that the cavity of the original abscess still remained open, but was contracted into a narrow fistula leading from the thigh to the middle of the psoas muscle. There was another large abscess on the opposite psoas muscle, which had not yet descended to the thigh, where, as has been already mentioned, there was also an abscess of considerable magnitude, but unconnected with this in the loins. The lumbar vertebræ were perfectly sound.

That the death of this man was not owing to the original abscess in the loins, is to me very obvious. That abscess did, indeed, for a considerable time, greatly disturb his constitution; but it afterwards became indolent, and acquired a state incapable of exciting irritation.

tion. The derangement of health which he suffered, was, I think, uncommon; and the disposition which different parts had to form matter, was also unusually great.

C A S E IV.

Having unfortunately lost the minutes which I took of the next case that occurred in the hospital, I can only give such a general account of it as my memory supplies. The subject of it, Doods King, who was under the care of Mr. Blicke, was about thirty years of age, and of a very sickly aspect. The abscess presented beneath Poupart's ligament; it contained at first about 20 ounces of curdly matter, and was punctured four times, with the usual progressive reduction in the quantity of matter discharged: but before the fifth time of opening, one of the punctured places ulcerated. There was indeed, from the beginning, in this case, a great disposition in the skin to inflame and ulcerate, and it was with difficulty I could heal the orifices made to let the matter out. As soon as the cavity

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had thus become open, a poultice was applied to the part, and confinement to bed strictly enjoined. The patient became somewhat weaker, but no fever ensued. I did not suffer him to go about, however, for a long time, lest the motion of the parts should induce inflammation. The abscess at last became perfectly indolent itself, and un-irritating to the constitution; but it did not shew much disposition to heal.—He was discharged in this state, and promised to apply again if his complaint became troublesome. I saw him about a month after his dismissal, when he mentioned a design of going into the country; since which I have not heard of him.

C A S E V.

A poor girl, nineteen years of age, whose spine was greatly distorted from disease of the bodies of the vertebræ, had a collection of matter formed in her back, which made its way along the right psoas muscle, and now distended the fascia of the thigh so much, as to occasion a redness of the integuments, and
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a disposition in them to ulcerate. She was very thin, and of a delicate appearance; but her appetite was good, and her pulse, though frequent, was regular, and moderately strong. Issues were made in the integuments on each side of the curvature in the spine; and the abscess being punctured, two quarts of matter were discharged from it. At the end of a fortnight, I let out another quart, of a serous fluid rendered turbid by pus. After a like interval, fourteen ounces, and again ten ounces, of a similar fluid, were evacuated. During all this time she suffered no derangement in her health; on the contrary, both her appetite and strength were increased; a convincing proof that it is not the quantity of matter discharged, but the irritation which patients undergo in these cases, that exhausts their strength. Indeed, whoever reflects upon the great loss of nutritive matter which is often sustained with little injury by delicate females, where the contents of a diseased ovarium are frequently drawn off, will readily admit this conclusion.

The patient now became rather feverish, her skin being hot and dry, and she was thirsty and restless: at the end of the fortnight, the fascia of the thigh was so little elevated, that it was difficult to puncture it, and six ounces of matter only were discharged. During the next fortnight, her health improved, and she daily went out into the air upon crutches, which the deformity of her spine had long obliged her to use. I now wished her to return home, and to come to the hospital every fortnight or three weeks, as she might find it necessary. Before her dismissal, however, I once more punctured the fascia, and let out six ounces of fluid. This was done on Saturday; and when I came to the hospital on Monday, I was not a little surprised to find the tumour in the thigh as large and tense as when I first saw it. The integuments were also affected with considerable erysipelatous inflammation; her pulse was a hundred and sixty, and very irregular; her breathing quick, and so extremely difficult as to indicate some uncommon affection of the parts concerned in respiration; her face, too,

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expressed the greatest disquiet and alarm. All the account I could obtain from the patient was, that something had burst within her during the preceding night.—She did not continue long in this distressful state, but died before I came to the hospital next day.

On examining the body, I found a great quantity of healthy pus beneath the fascia of the thigh. I then traced the channel of the lumbar abscess (which was about an inch in diameter) up to the superior part of the right *crus* of the diaphragm. I could not pursue it farther without dividing that muscle; but I passed my finger through an opening in the diaphragm, and found that I could introduce it between the processes of some of the dorsal vertebræ (which were carious and deficient), so as to touch the medulla spinalis. I now thought it right to open the thorax; and having removed the lungs, I discovered a large abscess which had formed beneath the pleura on the left side of the spine, and which still contained some matter. From this also, I could pass my finger through the spinal canal

to the abscess on the opposite side ; the transverse processes of the vertebræ on both sides being carious, and in part deficient.

It was now clear, that the abscess from which I had discharged the matter by puncture, extended from the dorsal vertebræ to the thigh ; but that a large abscess had also formed on the opposite side beneath the pleura, which forced its way through the carious spine, and again filled the cavity of the primary one. But why the mere bursting of this second abscess, in the manner described, should have occasioned such extraordinary derangement of the system, and especially such difficult respiration, is not so easily explained.

C A S E VI.

James White, aged twenty-five years, came from Essex to be admitted into St. Bartholomew's Hospital, on account of a lumbar abscess. He had suffered much from pain of his loins for twelve months ; and for some time past had experienced a difficulty in lifting up his right thigh. There was a curvature in the
dorsal

dorsal vertebræ; but that, he informed me, was an old complaint. Yet, from the general appearance of the man, from the difficulty he had in moving the upper part of the trunk upon the lumbar vertebræ, and from the caution with which he attempted this motion, I could not but suspect a disease of the spine. Issues were therefore made in the loins; and on the 25th of June, I let out two quarts of purulent fluid from beneath the fascia of the thigh. He had less pain in his back after the operation; and though he was teased with a cough, his strength did not suffer any diminution.—On July 7th, I discharged from the abscess fourteen ounces more, of a turbid brownish fluid. On the 17th, though the tumour in the thigh was inconsiderable, yet the part first punctured was elevated and inflamed. It seemed that the puncture in the integuments had healed, while that in the fascia had not united firmly, but had suffered the matter to pass through it, so as to elevate the skin. To remedy this, which threatened to lay open the cavity of the abscess, I was obliged to puncture it in an-

other place; and eight ounces of fluid were discharged. The patient was now in much better health than he had been for more than a year, and was able to lift up his thigh without pain. I therefore set him to exercise the muscles in the neighbourhood of the disease, thinking that if the exertion did not produce irritation, it might answer a good purpose. With this view, he stood upon the leg of the sound side, and alternately lifted up and let fall the other, until he was somewhat fatigued. By frequent repetition of this exercise, the muscles of the diseased side acquired considerable strength; and in a little time he felt himself (to use his own expression) "able to go to plough."

The fascia of the thigh was punctured every fortnight for some time, and afterwards every three weeks. When he had been nearly three months in the hospital, he became tired of the confinement, and feeling himself strong, was very solicitous to have the abscess opened, and suffered to discharge itself. The disease of the spine made me unwilling to comply with his desire; and I sent him into the country for
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three weeks, that he might ascertain, by the journey, whether he was as strong as he supposed; thinking that if he bore it without fatigue, it might be of service to him. At the same time, I gave him strict injunctions not to exert himself if his loins or thigh became painful; and, in that case, to return again by the first conveyance. It was five weeks, however, before he came back; when I found that the abscess had inflamed, and burst, about twenty days after he left town; in consequence of which he became so ill, that he could not bear removal. He was now in a most wretched condition, being scarcely able to turn in bed, from the weak and painful state of his loins; his pulse was rapid, and his skin hot, and he had occasional fits of chilliness succeeded by sweating. He became considerably better, however, and continued so for some time, in consequence of the attention paid to him in the hospital; but his health again declined; and after several relapses, with intervals of temporary amendment, he at last sunk, and died at the end of three months from his re-admission.

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With a view to lessen the excessive irritation which prevailed in the cyst after the abscess had become open, I tried to inject a solution of opium, but could not force it above Poupart's ligament; though I think that the quantity which was injected, and which was retained for some time, proved of service in this respect. The only way, I believe, in which injections could be applied to the whole extent of the sac, would be, by making an opening immediately below Poupart's ligament, and introducing to the upper part of the abscess a piece of hollow bougie, or some similar canula, through which the liquid might be pushed by means of a syringe. But whether injections of this or any other kind would prove of sufficient benefit to vindicate such an attempt, my experience does not enable me to say.

On opening the body after death, I found that the abscess extended upwards to some diseased vertebræ. The diseased bone, however, did not immediately come into view on lifting up the peritonæum; for the tendinous
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expansion which covers the bodies of the vertebræ, was still entire, and formed a kind of cyst distended with matter. When this was opened, it was found to contain pus, together with the fragments of three of the bodies of the lumbar vertebræ; there being ten or twelve detached pieces of bone lying upon the medulla spinalis, and surrounded with matter. This was evidently a peculiar disease of the spine, which neither caustics nor any other remedy could alter. It greatly resembled that diseased state which sometimes occurs in the carpus and tarsus, in which the small bones composing these parts are broken down, and lie confined in a ligamentous capsule, surrounded with matter. If the dead portions of the vertebræ had not been thus confined, they might have had some chance of removal; but under the circumstances already noticed, it is most probable that they would remain, and act as extraneous bodies, exciting irritation, and increasing the disease.

C A S E VII.

April, 1795.—Robert May, aged thirty, was about three years ago attacked with severe pain in his loins, which has continued in a greater or less degree since that time. In the beginning of the winter the pain became very severe, during the continuance of which he was unable to lift up his thigh; and soon after, he, for the first time, remarked a swelling in his groin. The pain then gradually abated, and he recovered the power of moving his thigh with tolerable freedom.—About three months ago, he discovered another swelling beneath the glutæus muscle of the same side. The swelling on the front of the thigh appeared large and spherical, and the matter was forcibly impelled from his loins whenever he coughed. The patient, who was of a pale complexion, with slender feeble muscles, had also considerable difficulty in performing the natural motions of the spine; from which circumstances, as well as from the long continuance of the disease, it seemed

seemed very probable that the vertebræ were affected.

The first time I punctured the abscess, about forty ounces of thin serous pus, mixed with some coagula, were evacuated. Three days after the operation, he had much pain in his back, on which account issues were made there, and were attended with relief. The abscess was punctured six times, at intervals of a fortnight, till at last the quantity of matter discharged did not exceed five ounces. His health during this time became much better; but the repeated wounds made by the lancet produced a considerable degree of enlargement in the lymphatic glands on the front of the thigh. This indeed had occurred to me in other cases, but never in so great a degree. One of the largest of the glands suppurated and ulcerated; and the general tumour was so great, as to preclude any farther attempt to puncture the fascia. I was therefore obliged to have recourse to other means, from one of which I experienced much advantage. Having applied leeches and
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aqua lithargyri acetati to the tumour, without any effect, I was induced to try emetics; one of which, consisting of half a drachm of vitriolated zinc and one grain of vitriolated copper, the patient took twice a week. The use of these was followed by a great abatement in the swelling of the glands; and no fluid was collected in the abscess for more than six weeks, although, during that time, these medicines were gradually left off.

As I could now do no more for the patient, and thought that he would recover his health sooner out of the house, he was made an out-patient. In little more than a fortnight, however, he returned. A new inflammation had attacked his loins, where, as it appeared, the disease had not abated sufficiently to allow of much exertion in exercise. He was again admitted into the hospital, in hopes that this attack might subside during a state of rest. Very unfortunately, however, the ulcerated gland partook of the general inflammation, and the sore enlarged. A poultice was now applied over the front of the thigh; but on the

the fourth day after his re-admission, the ulceration extended into the cavity of the abscess ; which circumstance was known by the quantity of serous discharge that followed on the removal of the poultice ; nearly a tea-cup-full of this kind of fluid came away daily.

Although his sufferings were not immediately aggravated by the abscess being thus laid open, yet the parts soon acquired that state which is usually found to take place in lumbar abscesses, especially when connected with a disease of the spine. The discharge became profuse, thin, and fetid. He could scarcely move himself in bed, and felt, he said, as if his back was broken. His appetite entirely forsook him, and his nights were passed without rest. From this state I certainly expected that he never would recover ; yet, after lingering in it for more than two months, a change for the better took place. The sides of the opening granulated, and both the quantity and fetor of the discharge abated. Some degree of appetite again returned, and he acquired sufficient strength to walk about the ward. The weather

ther was at this time warm; and as he had an opportunity of going to the sea-side, I encouraged him to do so. His complaint, however, did not get any better there; on the contrary, he returned weaker than he went, with the addition of a considerable curvature of the spine about the lumbar vertebræ. His illness now seemed to be kept up rather by the disease of the vertebræ than by the peculiar state of the abscess.—Issues were made in his loins, and confinement to bed enjoined. Under this plan, his health, for a short time, improved; but the abscess continued to discharge profusely, and he afterwards became hectic, and died. His body was removed from the hospital before I had an opportunity of examining the spine.—I have, in other cases, seen people recover where the spine has been much diseased, under similar treatment. It seems to be very essential to preserve the diseased bone as free from motion as possible, and to keep up a considerable counter-irritation by issues.

CASE

C A S E VIII.

Elizabeth Smyth, aged twenty-seven, had a lumbar abscess, which presented beneath the fascia of the thigh. The previous symptoms rendered the nature of the complaint indisputable; and as she not only shewed evident marks of a scrofulous habit, but also felt considerable inability in moving the spine, there was great reason to suspect that the abscess originated from a disease in the bone. She was likewise troubled with cough, and drew in very little air when she inspired. Her appetite, too, was often deficient, and her bowels frequently disordered. It may also be added, that her brother, who greatly resembled her, was at this time a patient in the hospital, under Mr. Long, on account of a scrofulous disease of the spine, which had occasioned an affection of the medulla spinalis. When all these circumstances were taken into account, she certainly appeared a subject by no means capable of sustaining the irritation and disorder which the bursting of a lumbar abscess might

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be expected to produce. I therefore punctured the abscess immediately, and discharged from it twenty ounces of flaky matter: and having healed the wound, I gave her emetics of vitriolated zinc and copper, and afterwards of ipecacuanha, twice or three times a week, for six weeks. At the end of this time, there was so little matter in the abscess, that I thought it too small to be punctured with safety; and as her health was too infirm to admit of the emetics being continued, I tried to produce absorption of the remaining matter, by passing the electric fluid through the abscess. Very small electric shocks* were accordingly sent from different parts by the side of the lumbar vertebræ, down to the groin, and upper part of the affected thigh;

* These small shocks, which, for the sake of distinction, I shall call electric vibrations (a term, I believe, generally applied to them), were made by discharging a small jar, the coated surface of which did not exceed fourteen square inches: and by placing the ball of the electrometer at a small distance from the conductor, generally about a quarter of an inch, one of the discharging rods was moved about on the upper part of the thigh, and the other on the loins, so that the electric fluid might pass through the abscess.

and, under this treatment, the contents of the abscess soon disappeared, nor did any farther collection of matter take place during the time of her remaining in the house, which was nearly two months. The electricity also brought on the menstrual discharge, which for a long time had been very irregular; and her general health was greatly improved before she left the hospital*.

C A S E IX.

Elizabeth Hart, about thirty years of age, had suffered greatly from pain in her loins, for ten months. During that time, matter had formed, and made its way down beneath Poupert's ligament, in such quantity as considerably to distend the fascia of the thigh. She was much reduced in strength, and in the appearance of health, by this complaint; but as her constitution was good, and she could move the spine with facility, there was no reason to suspect any disease of the bone.

* I have lately heard, that the abscess has not appeared again, though a year has since elapsed; but the pain in her loins, has (as might be expected) recurred.

I punctured the abscess, and discharged two quarts of very healthy pus, ordering her occasional emetics after the orifice had closed. She could not continue them regularly, however; as, during their use, her bowels became disordered, and she lost her appetite and strength. The accumulation of matter was, notwithstanding, evidently delayed by them; for when, at the end of three weeks, I next punctured the abscess, only one quart of ferrous fluid was evacuated. After the space of a month had elapsed, another quart was discharged. During this time she had taken emetics occasionally; but her health was far from good, and the pain in her loins was still considerable.—I had now witnessed the beneficial effects of electricity in the case of the last patient, and resolved upon trying it here. It was accordingly repeated three times a week, for three weeks. At first, a small collection of fluid in the abscess was perceptible; but this was gradually absorbed; and by the end of the third week, there was no longer any pain in her loins, her health was greatly improved, and she was able to walk about, without

out the least appearance of her former complaint. She was therefore discharged from the house; but came once a week, for some time, to be electrified*.

The two last cases point out to notice a remedy that is likely to be of much advantage in the future treatment of lumbar abscess. My experience of it, however, has not yet enabled me to determine how far it may be *generally* beneficial. In one instance where I employed it after the abscess had been once punctured, it kept the matter from collecting for a long time; but the patient growing tired of the confinement, and apprehensive lest the lancet should be again employed, left the hospital without my knowledge.—Of another, and somewhat analogous disease, in which it was tried, though not with complete success, I shall here relate the particulars; first remarking, that all the observations which I have made on electricity applied to diseased parts,

* This patient remains at present in perfect health; nor is there any reason to expect a relapse.

lead me to conclude, that it acts as a stimulus, which has the peculiar effect of accelerating that process which happens to be going on at the time.—Thus, in some states of inflammation, it hastens suppuration, whilst in others it promotes dispersion. We should therefore always endeavour, previous to the use of this remedy, to bring the tumour or abscess into that state in which its progress is stopped, and in which, perhaps, it is rather inclined to recede; and by this rule I have been guided in the application of this remedy to lumbar abscesses.

I have also been attentive to proportion the number and strength of the vibrations to the effect which they appeared to produce on the abscess: their operation seemed to be most beneficial when they occasioned a kind of irritation or slight uneasiness in the part for a short time after their application. But if this sensation amounted to pain, or if it was of too long continuance, I then supposed that the stimulus had been employed in too great a degree.

C A S E X.

Israel Brooks, aged twenty-five, about two years ago, was first seized with violent pain in his loins, which prevented him from either riding or walking for some time. About three months afterwards, he had the rheumatism in the joint of one of his fingers, which shifted to his wrist, where it produced a thickening and disease of that part; and at present, all the carpal bones are evidently diseased, and displaced. This disease also attacked his left knee, where it occasioned an enlargement of the joint, that still continues. Two months after this, he discovered a swelling beneath the glutæus muscle, which has gradually increased; and since that time the pain in his loins has become much less severe, but a sensation of great weakness remains. This abscess was shewn to me at the hospital, as an instance of a remarkably large one; and there was no doubt but that it contained between two and three quarts of matter. There was also a prominence of the fascia on the front of the

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thigh

thigh below Poupart's ligament, accompanied with evident fluctuation. The several gentlemen who examined this latter tumour, thought they could perceive an impulse given to it from within, whenever the patient coughed; whence it was supposed to have its rise from a lumbar abscess: but whether the abscess under the glutæus muscle communicated with the loins or not, we were unable to determine, as no such impulse could be felt in it.

I gave the patient emetics of vitriolated zinc and copper; and kept up an eruption of pimples on the skin covering the abscess, by rubbing it with a strong solution of tartarised antimony. Gentle electric vibrations were also daily passed from the loins through the front of the thigh, and also through the glutæal abscess. By this treatment, continued for two months, the tumour was very much reduced in size; that is, as far as could be judged of by the eye; for its situation prevented any accurate measurement of it. In spite of our endeavours, however, the patient's health had declined since his admission

mission

mission into the hospital; and in proportion as he lost strength, his other local complaints became worse.—As it was now summer-time, and he had an opportunity of going to the sea, which had formerly been of service to him, I punctured the glutæal abscess without loss of time, let out three pints of healthy pus, and then healed the opening. His weakness increased considerably after this discharge, and all his other complaints were much aggravated. The electricity was still persevered in; and at the end of three weeks, the quantity of matter in the abscess was very small; I cannot suppose it was more than eight ounces.—I very much wished to have had an opportunity of making fresh punctures in this case; but the state of the patient's health obliged me, however reluctantly, to discharge him from the hospital.

I have always found that abscesses, evacuated in this manner, filled again to one half or two thirds of their original quantity in the space of a fortnight: so that here also, the beneficial

neficial effects of electricity are, in my opinion, sufficiently manifest.

These are all the cases of lumbar abscesses that I have had the treatment of since my former publication on this subject. There are, however, some circumstances in two others that I have seen, which I think deserve attention, and which I shall therefore briefly relate.

C A S E X I.

Catharine Vallance, nineteen years old, of a healthy appearance, but having a considerable inclination of her body forwards, from a former disease of the dorsal vertebræ, had, for twelve months before I first saw her, laboured under severe pain of her loins, accompanied with fever. There was at that time a large lumbar abscess, the matter of which had descended to the upper part of the thigh, where it distended the integuments, so as to render them prominent and thin. A surgeon pricked this
tumour

tumour with a lancet, and let out more than a pint of very healthy pus ; by which the bulk of the swelling was scarcely diminished : but as no more matter would flow, a piece of sticking-plaster was applied over the orifice. Four days afterwards, another surgeon, observing that the integuments were inflamed, and the punctured part much disposed to ulcerate, made another aperture, at some distance from the former, and discharged three pints of good pus ; which completely emptied the cavity. The last puncture being attentively closed, healed readily ; and the first lost its disposition to ulcerate. The young woman continued perfectly in health for ten days, when some little distention of the abscess again occurring, the first puncture ulcerated ; in consequence of which the collected matter made its way out, and left a permanent opening into the cavity. Considerable fever now came on, the patient's pulse was rapid, her tongue white, and her skin hot and dry ; but these symptoms abated after a short time, and she again recovered her former state of health ; the abscess not falling into any secondary state
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of disease after the inflammation went off; nor did any hectic fever take place after the first derangement of the constitution had subsided.

Another abscess now presented itself, in the same situation, on the opposite side. As soon as this had acquired sufficient prominence to give security to the parts beneath, it was punctured; twelve ounces of healthy pus were let out, and the orifice was closed. When the matter collected again, the wound, made to discharge it, was suffered to remain open. The inflammation which took place in the cyst in consequence of this, was very slight, and hardly affected the constitution: the parts soon became indolent, discharging but little matter, and both the abscesses healed gradually.

It is now three years since this case occurred; and I have lately seen the patient, who has experienced no inconvenience from the complaint since that period.

C A S E XII.

A young woman had a lumbar abscess, presenting in the upper part of the thigh, from which a surgeon discharged, by puncture, nearly a quart of matter, and healed the opening. At the expiration of a fortnight, a second puncture was made, and twelve ounces of matter let out. The last orifice was closed like the first, but after a few days it ulcerated, and the cavity of the abscess became exposed. The patient now growing very ill, was admitted into St. Bartholomew's Hospital. Her pulse was quick, but not deficient in strength; her tongue white, and her skin hot and dry: the discharge from the abscess was not great, but the pain of her loins was very severe. A large poultice was applied to the thigh; and the common saline mixture, with small doses of antimonials, was given. In the course of a week, a considerable change took place; her pulse, though still quick, was rather feeble; her tongue moist, and not furred; and she had

had frequent perspirations without any evident cause : the pain in her loins abated considerably, and the discharge from the abscess became copious, thin, and fetid. She now began to take the Peruvian bark, and in the space of a month gradually recovered from this state of debility. Having acquired strength enough to sit up, and to walk a little about the ward, she one day imprudently went into the air, and walked until she was much fatigued. The consequences of this were, a return of the pain in her loins, with quickness and hardness of her pulse, white tongue, and hot and dry skin. As the pain and fever went off, they were succeeded by an increased discharge from the abscess, and irregular perspirations, which gradually abating, the abscess at length became indolent, and no longer affected the constitution. Warned by her former experience, she now took exercise very cautiously ; and when she found she could bear motion without exciting irritation in the abscess, she went into the country, where she regained her health ; the abscess
healed,

healed, and she has since continued perfectly well.

When a permanent opening is made in a lumbar abscess, the part generally falls into a morbid state, and this is accompanied by a sympathetic affection of the constitution, corresponding in its nature with the local complaint. In the first of the two cases just now related, both the local and constitutional disease were of a more purely inflammatory kind, than in any other that I had ever seen; nor was it succeeded by that ill-conditioned state of the sore, accompanied with a thin fetid discharge, and hectic symptoms, which so frequently occur in this disorder. In the second case, as the patient's general health was tolerably good, the disease in the beginning approached to the nature of common inflammation, then gradually acquired the usual state of these abscesses, but afterwards became indolent; the sympathetic affection of the constitution exactly corresponded to the state of the abscess. At first the fever was inflammatory, then hectic;

tical; and when the local complaint became indolent, the general state of the patient's health was no longer affected. These circumstances still more strongly appeared after the accidental re-excitement of the inflammatory symptoms.

When I first began to open lumbar abscesses in the method I have recommended in this and my former Essay on the subject, I was extremely solicitous to do it in such a manner that the inner part of the aperture might act like a valve, to prevent any matter from oozing out, so as to keep the orifice open. I have found, however, that great care in this respect was quite unnecessary. I now make the opening with very little obliquity, and by using a broad abscess lancet, the wound is generally sufficient to give a discharge to those coagula which are so frequently found in the matter. I always completely empty the abscess, and then bring the lips of the orifice together

gether by means of lint and sticking-plaster; as after the operation of phlebotomy; and over these a compress and bandage are applied. I dress the wounds every second day, and of late have found little difficulty in healing them, though many of them granulate before they completely unite. The only troublesome circumstance that has lately occurred to me, has been an enlargement of the lymphatic glands on the front of the thigh, at the place where the abscess has been opened.

I should not have been so particular in describing what may, to some, appear unnecessary minutiae, had I not known instances where this mode of treatment was completely frustrated from want of attention to them.—With regard to the time of repeating the operation, it must be regulated entirely by the circumstances of the case; the matter collecting much faster in some persons than in others. It is best, I think, to wait until the integuments are sufficiently elevated to allow of a puncture being made in them without any hazard of wounding the parts

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underneath.—Many patients bear even the first discharges without any loss of strength, notwithstanding the quantity of matter evacuated is very considerable; and almost all that I have seen, improve in health under the subsequent ones. The great disturbance that ensues, when, either by accident or design, a permanent opening is made in a lumbar abscess, should render surgeons extremely anxious to avoid such an occurrence altogether, if possible, or, at least, to delay it for a considerable time: and although the danger and the sufferings of the patient, when the abscess is opened, will be much greater where there is disease of the vertebræ; yet, as we had an opportunity of observing in the third case, this caution cannot be disregarded with safety, even when there is no reason to suspect any morbid condition of the spine.

The great benefit derived from occasional emetics and electricity, encourages me to hope that many of these abscesses may be dispersed without any permanent exposure of their cavity, and that thus the patient may
escape

escape the sufferings and hazard to which such an operation necessarily exposes him.

Where the vertebræ are found, the disturbance excited by opening the abscess will in general subside gradually, and the wound will at last become indolent ; in which state it may remain for a considerable time before it entirely heals, but without affecting the patient's constitution. Perfect quietude seems indispensably necessary in the irritable state of this disorder. I have thought issues very useful in some cases ; but in others I could not perceive much advantage derived from them. A solution of opium injected, in one case, seemed beneficial, though it did not ascend above Poupart's ligament. From reflecting that the state of the constitution follows, and corresponds with, that of the abscess, I am strongly inclined to believe, that injections may be useful, in preventing the cyst, when it has become open, from acquiring that morbid condition which induces the hectic fever. In the records of former practice, we read of many extensive abscesses, into which irritat-

ing injections were daily thrown. According to the ideas which now prevail among surgeons, the additional irritation excited by these, would be supposed to create great mischief; yet, we are told that these patients recovered perfectly, and perhaps for the very reason I have suggested, viz. because the abscess was prevented from falling into the peculiar morbid state which induces hectic fever.

The injecting the cavity of a lumbar abscess cannot, I believe, be effected, unless a flexible pipe, such as a hollow bougie, could be introduced into it from beneath Poupart's ligament; when the injection might be thrown in, and applied to the whole surface of the cyst. In general, however, it would require a new opening to be made through the skin and fascia below Poupart's ligament, in order to effect the easy introduction of such a cannula.

I have very little to observe respecting the medical treatment of these diseases. I ought, however, to mention, that I thought the ad-

ministration of opium, at regular intervals, and in doses proportioned to the cause which required it, was very useful in mitigating the pain and irritability of the abscess, and in consequence the corresponding hectic fever. Although later experience has shewn me, that lumbar abscess and diseased vertebræ are more frequently connected with each other than at first I supposed, still I think it probable that they are much less so than was formerly believed. It is, perhaps, a curious circumstance, that, in the first eight cases of which I gave an account, there was no reason to suppose any disease of the spine existed. In the present twelve cases which I have related, the three patients who died, perished from the extraordinary degree of the disease in the bone. One woman, whose abscess was dispersed by electricity, has, in my opinion, a disease of the spine, and may, on that account, be liable to a return of the complaint. All the other cases, where the disease was unconnected with carious vertebræ, did well, although in some of them the abscess was

large, and the health much impaired by its formation,

At the conclusion of my former Essay on lumbar abscess, I suggested, that this mode of letting out fluids contained in sacs might prove useful in spina bifida. Only one instance of this disease has since occurred to me; and in it the circumstances were such, that little could be hoped for from any means.

C A S E XIII.

A child, about four months old, was brought to the hospital for advice. From its screaming violently at times, and being also occasionally affected with strabismus, I thought there might be some disease within the head; but yet the child sucked heartily, and its bowels were in a natural state. But the complaint which principally required attention, was a spina bifida; the tumour was as large as an orange, and the dura mater which formed the
sac,

fac, had protruded through a vacancy in the upper part of the sacrum. The integuments covering the tumour were as thick and inelastic as the upper leather of a shoe, except at one part, where ulceration had lately taken place, and formed an opening through which the fluid contained in the dura mater had just begun to escape. The thickened state of the integuments probably arose from a variety of irritating applications being employed to disperse the tumour.—As I knew that the child must shortly perish if nothing were done, I punctured the swelling at some distance from the ulcerated part, and let out six ounces of perfectly limpid fluid. I then closed the aperture by means of sticking-plaster, dressing the sore with mild salve, and, afterwards laying a compress over the whole, made a slight degree of pressure on the part by applying moderately broad slips of sticking-plaster over the compress. Upon removing these dressings the second day after the operation, I found the puncture quite healed, the ulcerated orifice closed, and the sore having a

healthy appearance : the sac was now about half filled. In two days after, the ulcer was much better, and the sac nearly full. I now again discharged by puncture about the same quantity of limpid fluid, and afterwards applied the compress in the same manner. The thickened skin fell into wrinkles when the fluid was let out, but shewed no disposition to contract. The puncture was repeated every fourth day for six weeks, during which time the child's health continued unaffected ; but the great obstacle to recovery still remained, viz. want of contractility in the skin, the dimensions of which did not seem to have varied from what they were at first. The plaster which covered one of the punctures being now by some accident rubbed off, the fluid continued to ooze out ; nor could this orifice be afterwards brought to unite. The discharge gradually changed from a limpid to a puriform appearance ; and in a few days the child died, but with much less pain, convulsion, or signs of inflammation, than in any case that I had seen.

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When the body was examined, I discovered more than one error in the formation of the spine and parts connected with it. There was not only a deficiency of bone, which allowed the dura mater to protrude and elevate the integuments in the manner already described, but the medulla spinalis, or a substance of an apparently similar nature, was continued into the sacrum, and there joined to that part of the dura mater which made the front of the bag. The nerves composing the cauda equina went off at their usual place. But there were other nervous filaments which arose from the unnatural prolongation of the medulla spinalis mentioned above, and which, like it, terminated in the dura mater forming the sac.

In some cases of spina bifida, the skin covering the tumour has not a natural texture; but in this case the diseased state of it was the effect of improper treatment. Under such circumstances, much benefit cannot be expected from this mode of treatment; but
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where the integuments are found, and naturally elastic, and where the malformation consists merely in a defect of a spinous process, I entertain hopes that a gradual contraction of the sac may ensue, if it be occasionally emptied, and moderately compressed. This unsuccessful case is related, as it shews, that, where the circumstances are more favourable, the attempt at a cure may at least be made without any hazard.

EXPERI-

EXPERIMENTS

ON

IRRITABILITY.

FONTANA observed, that a muscle which could no longer be excited to contract beneath water, was yet capable of acting again when removed from that situation, and exposed for some time in contact with air previous to its being stimulated. This observation suggested an idea, that air was in some way or other conducive to irritability. In the *Journal de Physique* are two Memoirs, by Dr. Girtanner, in which that gentleman endeavours to prove that irritability depends on the oxygenous gas taken into the blood during respiration, and is in a direct ratio to the quantity admitted; an opinion which some later writers in this country seem inclined to adopt. It is difficult, however, to
conceive,

conceive, how oxygenous gas should in so essential a manner support the irritability of the body; and the opinion that it does so, is contradictory to all the ideas of that function, which we derive from general physiological research.—The question, if not absolutely to be determined, yet as it appeared to me capable of being illustrated by experiment, I endeavoured to examine in the following manner:

EXPERIMENT I.

If the newly-discovered method of exciting animal electricity be employed, a vivid contraction of the muscles will follow, as long perhaps as they retain their power of acting in this way. I accordingly had recourse to this mode of excitation, in order to ascertain how long muscular action would continue under certain circumstances.

Having killed a frog, I separated the pelvis and lower extremities from the trunk, deprived them of their skin, and divided them
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at the symphyfis pubis. One leg was put into a bottle containing oxygenous gas procured from manganese, and which was very pure ; the other into a bottle containing atmospheric air : the quantity in each bottle was about six ounce measures, and the limbs were supported in the airs, and wholly surrounded by them. After five hours, the muscles had nearly ceased to act in both limbs ; those, however, of the thigh belonging to that limb inclosed in the common air, acting more vividly than the others ; but in a little time, even these could be no longer excited.—Upon comparing the limbs afterwards, the muscles of that which had been exposed to the oxygene gas were evidently the most flabby.—Several other trials were made with a similar result ; whence I am disposed to conclude, that oxygenous gas has no greater power of supporting the irritability of parts *separated* from an animal, than the common atmosphere.

In some of the experiments, the muscles have continued to act after eighteen hours,
but

but with little difference of strength in the two limbs. This variety in the duration of the excitability probably depends on the degree of vigour possessed by the individual animal from which the limbs were taken; for all those gasses which are injurious when respired, generally destroy the life of the detached parts of animals in nearly an equal space of time.

EXPERIMENT II.

Having prepared the limbs of another frog in the manner described in the former experiment, I introduced one of them into a bottle of azotic, and the other into a bottle containing an equal quantity of hydrogen gas, in order to see the comparative effects of these fluids upon animal irritability. The limb which was kept in azotic gas for two hours and a half, was incapable of being any longer excited; but that in the hydrogen gas acted faintly after being kept nearly four hours in that gas: the former also, on examination, appeared very flabby.—Several repetitions of
this

this experiment afforded the same consequences.

EXPERIMENT III.

The prepared limbs of a frog were put into two equal quantities of carbonic and nitrous gas: both limbs ceased to act in an hour and a half.

EXPERIMENT IV.

One limb of a frog, prepared in the manner described, was inclosed in a vessel of carbonated hydrogen gas: at the end of an hour and a half, it would no longer contract. The other limb was immersed in water, from whence, after an hour and a quarter, it was taken out stiff and without action: but on softening the rigid muscles by the application of warmth with moisture, and afterwards exposing the limb to the air, I again excited perceptible contractions.

EXPERI-

EXPERIMENT V.

I put one prepared limb of a frog under the exhausted receiver of an air-pump; it lay on a plate of glass supported by a cup: Zinc was placed beneath the thigh, and gold under the leg; and by means of a probe passing through a collar of leather, I could touch both metals, so as to excite the muscles to contraction. This I did occasionally, and found the limb capable of excitement for twenty-two hours. The corresponding limb which was left exposed to the atmosphere, also contracted at the end of that time; so that it was doubtful which of them retained their powers in the greater degree.

The same experiment was repeated several times, with results so nearly alike, that I am induced to believe irritability continues very little longer in common air than it does in the exhausted receivers of an air-pump.

I have frequently produced numerous contractions in the limbs of frogs inclosed in
azotic,

azotic, hydrogenous, and other gasses; which likewise tend to shew that the cause of irritability does not depend upon oxygene for its power of action.

These experiments, I think, shew the impropriety of a term now commonly employed, by some perhaps metaphorically, but which many receive in a literal sense, I mean, the exhaustion of irritability during the contraction of the muscles: surely, if it was exhausted, it could not be so completely renewed as to continue to produce vivid contractions for a long time under such a variety of circumstances.

The event of these experiments, however, imparts no new information; it only tells us what we knew before,—that azotic, carbonic, and hydrogenous gasses are, in different degrees, injurious to life; and that oxygene gas, by itself, is not more beneficial than common air. The experiments shewing the long continuance of life and action in muscles placed under an exhausted receiver, are, however,

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worthy

worthy of notice; as they seem to prove, that the cause of irritability, when once it has been formed, does not require the assistance of external matter for the performance of its functions; and that it is less susceptible of change in this situation, than when exposed to the influence of the different gasses, which perhaps impair its vigour, or conduct it away from the animal fibre.

That the decomposition of oxygenous gas in the living body is the great source of animal heat, seems now to be fully proved; but how far it contributes to the production of irritability or of the living principle, we are not at present perhaps competent to determine. If the phenomena of irritability, like those of electricity or magnetism, should depend upon a subtile matter connected with another of a grosser nature, we have no more reason to suppose that it consists of oxygene, than of any other chemical substance. I am far from meaning to deny the great utility of oxygene in the functions of the animal body; but I think its importance has been over-

over-rated.—I infer that it is not essential to vitality, because different tribes of animals partake of it in very different degrees, and those which have least of it are by no means the least vivacious. In warm-blooded animals, the air-cells of the lungs are very numerous and small, and the colouring matter of the blood exists in great quantity; so that a strong attraction of oxygene takes place from a surface of immense extent. In the amphibia, the surface is less from the great size of the air-cells; and there is less of the attracting matter. In fishes there is still less oxygene applied to the gills, and still less attraction for it in the blood*. The consequence is what we might

* That oxygenous gas combines with the blood, and imparts to it a scarlet colour, was, I think, sufficiently proved by the experiments of Doctor Priestley; but as this is a circumstance still doubted by many, I beg leave to relate an experiment which I made, in order to examine this subject still more fully.—I took the coagulum of venal blood left in a basin after bleeding, and turning it bottom upwards, waited till its surface had become of a scarlet colour: I then took slices of this surface, and similar slices of the interior part of the coagulum, which had a very dark appearance, and exposed them repeatedly to azotic and nitrous gasses. The scarlet colour gradually faded upon such exposure,

might naturally expect,—a less production of heat in those animals which are the least capable of acquiring oxygene gas. There is, however, no corresponding decrease, but, on the contrary, an augmentation of vitality. —Again, if we reflect on the life of hydatids in closed sacs, of animalcules in the seminal vesicles, liver, gall-bladder, &c. and the length of time that many insects will continue to live, even when immersed in spirits, I think we must confess, that the presence of oxygene gas does not appear so essential to animal life, as many persons have of late supposed.

posure, and the azotic gas being afterwards examined, was found to contain oxygenous gas, while the nitrous gas was much diminished, doubtless by combining with the same principle. The gasses to which the dark-coloured blood was exposed, underwent no change in this experiment. That blood takes oxygenous gas from the air when it becomes florid, will not, I suppose, be denied; and the experiment I have related, shews that it will again part with it, though slowly, without any alteration in its temperature. When I exposed the serum of the blood to azotic gas, I did not find any oxygenous gas was given out by it; and this, as well as other reasons, have led me to entertain the opinion, that one great use of the colouring matter of the blood is, to readily combine and part with oxygenous gas.

SURGICAL

S U R G I C A L C A S E S

A N D

R E M A R K S.

Of the Operation for the Aneurism.

ALTHOUGH the experiment of tying the artery above an aneurism has been repeatedly made, sufficient experience has not yet been acquired to enable us, with certainty, to prognosticate the event of such an operation. The two following cases are therefore offered to the public, with a view to contribute something to the present stock of knowledge on this subject.

C A S E I.

George Dickens, aged thirty years, about eight months before his applying at the hospital, was rather suddenly, and without any

evident cause, affected with pain extending from the calf of his leg towards the ham, and so severe as to make him limp as he walked. When this had continued for some days, he took notice of a swelling in his ham, which throbbed violently, and continued gradually to increase in bulk till the time of his admission, March, 1795. The tumour was then of considerable size, but did not extend farther into the ham, than about two inches above the origin of the gastrocnemius muscle. The pulsation was then obscure; but on remitting the pressure with the fingers after having continued it for some time, an influx of fluid into the tumour was so distinctly perceived, as to render the nature of the case not at all doubtful. The leg was œdematous, and an erysipelatous blush surrounded the knee.—An attempt was made to compress the femoral artery just before it passed through the tendon of the triceps muscle, in order to see if it would lessen the size, or diminish the pulsation of the aneurism; but it gave the patient great pain, and considerably increased the swelling of his leg. After he had been a
fort-

fortnight in the hospital, the size of the aneurismal tumour, and the general swelling of the limb, were so much increased, that it was thought dangerous to defer the operation any longer. Mr. Blicke being indisposed at the time, it became my duty to perform the operation, which I accordingly did in the following manner: Having made an incision about two inches and a half in length, through the integuments and fascia of the thigh, near to the outer edge of the sartorius muscle, I separated the parts with my fingers, until I had laid bare the tendinous expansion which connects the lower part of the triceps muscle to the vastus internus, under which the vessels immediately lie. This being cut through, I immediately discovered the vessels, and passing my finger beneath them, could distinctly feel the artery pulsate between my finger and thumb. Having thus separated the vessels from their surrounding connections for about an inch in length, I thought it of great consequence to preserve their attachments at the places

where they were to be tied. I therefore passed two common-sized ligatures beneath them, and having shifted one upwards, and the other downwards, as far as the vessels had been detached from their surrounding connections, I tied both firmly. The ligatures were about an inch asunder, so that all that portion of the artery which had been detached, remained entire between them. It is right to mention, that no nerve was tied; but the veins accompanying the artery were included in the ligature. The divided parts were now brought together by means of sticking-plaster, except at the places where the ends of the ligatures were left hanging out of the external wound, which were respectively opposite to the part of the artery inclosed by them. The patient complained of much pain after the operation, occasioned by the pulsation of the artery at the part where it was tied; and likewise of an uneasy sensation of tightness extending from the wound down to the inside of the knee: nor did these feelings entirely
abate

abate for many days afterwards*.—The diseased limb was rather colder than the other during the two first days; but at the end of that time it had acquired, and afterwards continued to possess, its natural warmth. In a few days the aneurifmal tumour, and the swelling of the limb, were greatly reduced; the integuments united by the first intention both above, below, and between the ligatures; and from the openings where the ends of the threads hung out, there was a discharge of healthy pus, which rather increased in quantity for the first ten days, and then gradually diminished. The upper ligature came away on the thirteenth, and the lower on the fifteenth day after the operation, and the openings left by them closed soon after.

I think it deserves notice, that the portion of artery included between the ligatures, did not perish, notwithstanding it was necessarily

* These symptoms determined me to divide the artery, in any future case, between the two ligatures; by which means it will be left quite lax, and the uneasiness in question will, I think, be prevented.

deprived of all nourishment conveyed in the direction of the vessels, and also had been completely detached by my finger during the operation from all its lateral connections.

The aneurifmal tumour, which had lessened very quickly and considerably at first, became afterwards much softer, its contents seeming to be converted into a fluid; and from that time it decreased very slowly. The patient therefore remained in the hospital two months after the wound was entirely healed; nor could he perfectly extend his leg at the time of his dismissal.—I saw him about ten months afterwards, walking with very little appearance of infirmity: both legs were of the same size, and he told me there was very little remains of the swelling.

C A S E II.

Feb. 1796.—James Lindsey, aged thirty-four, about a year ago perceived a swelling beneath the calf of his right leg; and soon
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afterwards, whilst walking, he suddenly felt, he said, "as if he had been struck on the part" by a cannon ball," the pain being so great that he could not move for several minutes. The pain, however, gradually abated; but the swelling of the leg had continued to increase since that time. The whole calf was now lifted up by a quantity of blood effused beneath it. The muscles appeared thin, and were so extremely tense as to occasion great pain, accompanied with considerable erysipelas of the whole leg; so that a speedy ulceration and sloughing, or sudden rupture of the distended part, was hourly to be dreaded. Under these circumstances, tying the artery above the aneurism, was the only means of relieving the patient from his present suffering, and of preserving him from sudden death. But what was particularly discouraging, both to the patient and surgeon, was the discovery of another aneurism, situated in the femoral artery of the opposite limb. No preternatural pulsation, however, could be felt in any other part of his body.—The operation was

was performed by Mr. Blicke, in the same manner as described in the foregoing case, with this addition, however, that when the two ligatures were tied, the artery was divided between them. The lips of the wound were then brought together by slips of sticking-plaster. This patient's limb was for some time much colder than the other, and nearly three days elapsed before it had regained its natural degree of warmth; but the tension, pain, and erysipelatous inflammation quickly subsided. The divided integuments united above and below the ligatures, but not between them as they had done in the former instance; and there was also a larger discharge from the wound: both of which were probably owing to the state of the patient's constitution, which was much reduced in point of strength. This man, however, did not complain of the least throbbing, tension, or pain in the wounded part; and this entire exemption from the sufferings of the other patient, I could not but attribute to the division of the artery. The upper ligature came away
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on the tenth, and the lower on the fifteenth day ; after which the wound healed gradually, though very slowly.

About five weeks after this operation, the aneurism in the opposite thigh was almost ready to burst ; the tumour having acquired a pyramidal form, and the skin covering the apex having yielded so much as to form a kind of process from the tumour. Indeed the integuments at this part were so thin, that we every hour expected them to give way. The aneurism was situated so high, as to make it probable that the disease extended above the place where the arteria profunda is sent off. The patient had hitherto refused to submit to the operation ; but on reflecting that if the tumour should burst in the night, he must perish unless the bleeding vessel could be immediately secured, he consented to let me tie the artery in the groin whilst we had daylight, and proper assistance. The tumour approached so near to the groin, as to prevent us from compressing the artery against the bone ; for, in attempting this, the compress occupied

occupied the place where the incision ought to be made, and our endeavours to make a compression still higher, were ineffectual; they weakened, but did not interrupt the pulsation of the tumour. As the artery was so imperfectly compressed, hæmorrhage took place during the operation, which, though not dangerous to the patient, proved extremely embarrassing to the surgeon; for in attempting to lay bare the fascia of the thigh, I divided, by the very first incision, so many small arteries supplying the inguinal glands, and also so many veins, that the blood which was poured forth, completely filled the space made by the incision, and overflowed the side of the wound. The application of the sponge, the usual resource on those occasions, was of no avail; for the wound was instantly filled again, so that the whole operation was to be done upon parts covered with blood, where the only guide in its performance was the feeling. I did indeed see some exposed inguinal glands, and found that I had divided two of them in trying to get at the fascia of the thigh. As soon as I could distinctly

distinctly feel this part, I made a small opening through it, and introducing my finger, I divided it upwards as far as Poupart's ligament, and downwards as low as the aneurismal sac would allow me. The pulsation of the artery now served as my guide. Laying aside, therefore, all surgical instruments, I made way with my finger in a perpendicular direction, till I could touch its coats, and then, with my finger and thumb, separated it from its connections, so as to be able to grasp it alone between them. I then passed two ligatures under it by means of an eyed probe, and drawing one of them upwards, and the other downwards, as far as the space would permit, I tied them firmly. The upper ligature was about half an inch from the os pubis, and the lower one the same distance from the arteria profunda, which vessel I had distinctly felt before I tied the ligatures.

There are, perhaps, few situations of aneurism where the artery can be tied so separately and distinctly as here; the pulsation directs the surgeon to the precise situation of
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the vessel; and if he only keeps sufficiently close to its sides when he passes the ligature round, neither the vein nor the nerve can be included. I did not divide the artery between the two ligatures; it was suggested that I had better not; and I knew that I could obtain all the advantages of a relaxed state of the vessel, by merely bending the thigh upon the pelvis. The patient did not, after the operation, suffer any kind of pain from the wounded parts; which, I think, shews, that the artery did not inflame much in consequence of the ligature. The suppuration was moderate, and every thing relative to the wound went on as well as could be expected. The limb, and particularly the foot, was colder than that of the opposite side; but in about three days, it gradually acquired its natural temperature; and it all along retained a perfect state of sensibility, which I considered as a proof that it was sufficiently nourished. To prevent the heat from being carried off faster than it was generated, the limb was wrapped in flannel; but I avoided the application of any artificial warmth, lest its stimulus should prove injurious,

rious, by exciting action when the powers of life in the part might have been considerably diminished.

The blood in the aneurifmal sac did not appear to have coagulated before the operation; for the bulk of the tumour could be greatly lessened by pressure, whenever the patient would allow the attempt to be made; so that I conclude the limb had received nearly its usual quantity of blood through the femoral artery, until that vessel was tied. The tumour diminished greatly after the operation, and the blood contained in it became coagulated. This reduction of the swelling, I think, was owing to a considerable part of the blood passing onwards through the femoral artery: and I regretted afterwards, that, at the time of the operation, I had not endeavoured to press all the blood from the aneurifmal sac; which experiment would have shewn how far it was fluid or coagulated.

Every thing, with respect both to the state of the limb, and the patient's general health, went

on well till the fifteenth day, when the upper ligature unexpectedly separated, and the blood gushed in a full stream from the open extremity of the vessel. This fortunately happened during the attendance of the surgeons at the hospital, and the bleeding was stopped by pressure until their arrival. The stream of blood which flowed upon any remission or wrong application of the pressure, was so large, that we did not dare to remove the patient even from the bed on which he lay. Mr. Ramsden undertook, in this situation, to prevent the further escape of blood from the vessel, whilst I proceeded to tie the artery above Poupart's ligament. Accordingly, I first made an incision, about three inches in length, through the integuments of the abdomen, in the direction of the artery, and thus laid bare the aponeurosis of the external oblique muscle, which I next divided from its connection with Poupart's ligament, in the direction of the external wound, for the extent of about two inches. The margins of the internal oblique and transversalis muscles being thus exposed, I introduced my fingers beneath

beneath them for the protection of the peritonæum, and then divided them. Next, with my hand, I pushed the peritonæum and its contents upwards and inwards, and took hold of the external iliac artery with my finger and thumb, so that I was thus enabled to command the flow of blood from the wound. It now only remained that I should pass a ligature round the artery, and tie it; but this required caution, on account of the contiguity of the vein to the artery. I could not see the vessels; but I made a separation between them with my fingers. Having, however, only a common needle with which to pass the ligature, I several times withdrew the point, from the apprehension of wounding the vein*. After
having

* It would be, I think, an useful addition to our surgical instruments for such purposes, to have needles made with handles of pure, and consequently flexible, silver, and with steel points that have edges just sharp enough to pass through the cellular substance; but neither so pointed nor so sharp, as to endanger the wounding any parts of consequence that may be contiguous to those round which they are passed. When the points of these instruments were once passed underneath the vessel, the surgeon could bend their

having tied the artery about an inch and a half above Poupart's ligament, I divided that part, and thus laid the new and the former wound into one. I traced, as well as I could with my finger, the continuation of the artery, from the place where the ligature was now made, to that where it was formerly applied. I wished to have divided the artery, and to have suffered it to retract behind the peritonæum ; but I found it so attached to the surrounding parts, as to render such division difficult, and perhaps not advisable.

The lips of the wound were brought together with sticking-plaster, and one future only was made, opposite to the natural situation of Poupart's ligament. The peritonæum was pressed back into its place, and the protrusion of it restrained by bringing together the integuments with strips of sticking-plaster.

handles so as to accommodate them to the space they have to turn in, and thus avoid an inconvenience which, I believe, most surgeons must have experienced ; I mean, the great difficulty of turning a common needle in a deep and narrow wound.

No perceptible alteration occurred in the state of the limb after this second operation; but the patient's health was considerably reduced, by his having suffered from the complaint nearly twelve months, by having undergone three operations, and by the loss of a considerable quantity of blood. No adhesion took place between the divided parts; the edges of the wound were open and sloughy; the wound was painful, discharged a great deal of pus, and was so extremely tender, that he could not bear it to be touched. Still no great mischief appeared till the fifth day after the operation, when a hæmorrhage of arterial blood took place in such quantity, that there was no doubt but that it arose from the principal artery, though the ligature with which it was tied still remained firm. The patient's health was now so impaired, and his weakness so great, that an attempt at tying the artery still higher up, would have appeared like torturing him without any hopes of ultimate success. The wound was therefore cleansed and dressed; some compresses were applied upon it, and bound down by the spica bandage. By this

treatment the hæmorrhage was stopped; and the attendants were ordered to make a pressure on the bandage if any fresh bleeding should occur. The compresses were renewed for three succeeding days; and though occasionally the wound bled, yet it was not profusely, or in such quantity as to destroy the patient: his strength, however, gradually declined; a troublesome cough occasioned extreme pain in the wound, and in the course of the third day he died.

Dissection.

No marks of disease were discoverable in the aorta, or in the internal iliac artery. The external iliac was covered by a great number of lymphatic glands, which prevented it from being readily distinguished; yet, when separated from these, it did not appear diseased. For nearly two inches above the part which was tied, the lymphatic glands covering the artery were considerably enlarged, in consequence of the irritation excited by the ligature. The external surface of one of them
next

next the wound, had ulcerated; and the ulceration penetrated through the gland, and communicated with the artery, as was afterwards proved by flitting open that vessel. It was through this aperture that the blood had escaped; for the ligature still remained firm upon that part of the artery which it had inclosed. From this ligature to the place where the vessel had formerly been tied, the artery was so closely connected with the surrounding substance, that dissection was required to separate them. The parts of the artery from which the former ligatures had separated, were about half an inch asunder, and the canal of the vessel appeared perfectly open.—The whole of the vessels from the bifurcation of the aorta, to the aperture in the tendon of the triceps muscle, were now removed; and carefully dissected; and after being stuffed, and hardened by spirits, they were cut open to shew the state of them internally: A coagulum of blood, about two inches long, was found above the part where the last ligature was made. At what time this coagulum had been formed, is perhaps difficult to

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ascertain;

ascertain; it did not seem to have taken place after death, for above it the artery contained no blood; and if it had occurred before death, it is probable that it would have prevented the hæmorrhage. I have already remarked, that the man did not bleed for some time previous to his death; in which interval, perhaps, this coagulum had been formed — The ulcerated opening from the artery through the diseased gland, admitted the passage of a moderate-sized bougie. The ligature, which still firmly inclosed the artery, had brought its sides in contact, so as to render it probable that they would have united. All the other parts of the femoral artery were quite open, so that a large bougie could be passed from the lower end of it, through the aneurismal sac, to the place where the ligature now remained. About half an inch of the artery was wanting, which had been, as it were, cut out by the ligatures in the first operation. The sides of the arteries below the part which was tied were thicker than natural, and their internal surface was rough, and of a yellowish white colour. The arteria profunda was filled with
coagu-

coagulated blood, and had become reduced to less than the natural size. The sides of the artery of the opposite limb had firmly united at the part where it had been tied. No coagulum was found in it, and it had not diminished in size in any remarkable degree above the part which was closed.

The laying bare a portion of an artery, and tying it, in order to stop the current of the blood, was in some degree a new operation in surgery. It is not wonderful, therefore, that errors were at first committed in the performance of it. The failure in this operation appears to have been of two kinds; first, that which arose from the inflammation and ulceration of the artery; and, secondly, that which proceeded from want of union between the sides of the vessel. When an artery was laid bare, and detached from its surrounding connections, the middle of the detached portion was tied with a single ligature. An artery thus circumstanced must necessarily inflame; which

it would do in different modes and degrees, according as the state of the constitution, or of the part, was more or less healthy. It seems very probable that under these circumstances the inflammation of that portion of the artery which had been detached from its natural connections, would proceed either to suppuration or ulceration, and in either case an outlet would be given to the contained blood. The occurrence of hæmorrhage led some surgeons to adopt a practice which I cannot but consider as injurious. They applied a second ligature above the other, leaving it loose, but ready to be drawn tight if the first should not answer. The second ligature, however, must not only keep a certain portion of the artery detached from the surrounding parts, but must also give additional irritation to the inflamed vessel; and on both these accounts it is more likely to make the inflammation end in suppuration or ulceration. For similar reasons, I think, pieces of wood, cork, or other substances, must be detrimental, as they require a greater detachment of the artery for their application, and afterwards irritate by their presence.

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They have been employed by surgeons with two views; first, to prevent the ligature from cutting the artery. In this respect, I believe their interposition is not necessary, as such an accident scarcely ever occurs when the artery is tied in the usual manner. Secondly, to compress a certain extent of artery, so as to cause adhesion of its sides: but experience has proved that they will rather produce ulceration of the vessel than this effect. Indeed the attempt to employ pressure in this way requires so much dexterity in its application, and so much precision in regulating its degree, as to render it, in my opinion, inadmissible in common surgical practice. Mr. Hunter soon perceived the reason of the hæmorrhage after the operation, in the first cases that occurred to him; he saw that the ulceration arose from an irritated and unsupported state of the artery, and sought to remedy the defect by closing the parts about it. The mode, therefore, which Mr. Hunter's experience and judgment taught him to adopt, was, to expose as small a portion of the artery as possible, and, after having tied it, to bring

bring the surrounding parts into contact with it again. It is scarcely possible, however, to pass a ligature with certainty round a deep-seated artery without first introducing your finger beneath the vessel; to do which, in general, nearly an inch of the artery must be detached. When the ligature is applied in the middle of such a detached portion, so as to cause the death of that part inclosed by it, there will still be a certain extent, both above and below the ligature, liable to ulcerate, particularly in unsound arteries. It seems to me, therefore, that it might be better to use two ligatures, as was done in the foregoing cases, applying one of them as high up, and the other as low down, as the operator can, so as to inclose the artery at those parts where it is surrounded by, and remains attached to, its natural connections. Another advantage which, in my opinion, results from this plan, is, that it allows the division of the artery between the two ligatures. Some degree of inflammation must necessarily be excited in the tied vessels; and every surgeon knows how much the inflammation of parts is aggravated when

when they are kept in a tense state. But when the artery, tied in this way, is divided in the space between the ligatures, it becomes quite lax, possesses its natural attachment to the surrounding parts, and is, in short, as nearly as possible, in the same circumstances as when tied upon the surface of a stump after an amputation. If such a ligature does not soon come away; if it remains for more than a fortnight upon the ends of the vessel; it becomes difficult to imagine a cause why the sides of the vessel are not united.—In the two cases which I have related, the sufferings of the patients were very different. In the first, although the man's health was comparatively good, and the healing process went on as well as could be wished, so that the lips of the wound united between the two ligatures; yet this person suffered much from pain in the part, accompanied with a considerable throbbing of the artery for some days; whilst, in the other, the patient scarcely experienced any uneasiness, although the wound did not heal nearly so well.

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The ulceration of the artery has certainly been the cause of the greater number of failures; this, however, is an effect which, I hope, experience has now taught us to prevent*. But I acknowledge myself totally at a loss to devise any plan for obviating the other cause of failure in these cases, namely, the want of union between the sides of the artery. The second case affords an illustration of both these causes, particularly of the latter. Here the ligature which was first applied, did not separate till the fifteenth day; yet the mouth of the vessel remained as open as if it had been newly cut across; nor was there any tendency of the vessel to close below the ligature, except in the *arteria profunda*. Though we may be unable to counteract this indisposition in the sides of the artery to unite, it seems, however, of consequence, that we should protract, as long as possible, the separation of the ligature,

* The ulceration which took place in the last operation, cannot, I think, be considered as contradicting this assertion; for such was the state of the patient's health, that if a wound had been made in any part of his body, I believe, instead of closing, it would have become painful and enlarged.

to give time for this desirable event. Ligatures are, I believe, slow in their separation, in proportion as they include more of the surrounding substance, or as they are drawn less tight. We cannot, however, expect a ligature to remain upon a vessel longer than a fortnight; nor is it likely, if the artery be not closed in that time, that such an event will afterwards happen. Why the femoral artery did not unite in the case last related, I am quite at a loss to determine. Dissection, I think, proved that it had not suffered excess of inflammation in consequence of the first ligature: neither was there a deficiency of that process; for the cellular substance in which the vessel lay, had become thickened and adherent to it. Although I have several times seen the operation for the aneurism performed after Mr. Hunter's method, yet this was the only instance in which it did not succeed; which leads me to conclude that the least remediable cause of failure in this operation is not a frequent occurrence. As I cannot ascribe the want of success here to any other cause than a diseased state of the vessel, it seems

seems right to apply the ligature as far as possible above the aneurism ; and as this appears to be an object of importance, I feel great pleasure in having been able to relate a case, which shews how very high such an operation may be performed with safety to the limb, though repeated instances are required to give us assurance on this subject.

The obstruction which an aneurism occasions to the supply of a limb by the vessel in which it takes place, is probably not considerable until the blood coagulates on the inside of the sac. As far as I am capable of judging, the blood, in the aneurism last described, was very little, if at all, coagulated ; but, as I have often regretted since, I did not try to ascertain this circumstance at the time of the operation. The previous state of the artery below the aneurism, which was observed in the dissection, is also an additional reason for supposing that the blood had not been much diverted from its natural channels previous to the performance of the operation.

Of Emphysema.

Much praise is, in my opinion, due to Mr. John Bell, for the clear and spirited description which he has given of the state of the lungs in emphysema. The following case is related, to corroborate his remarks, and also to explain and lead to others which I am desirous of offering to the public on that subject.

C A S E.

A poor woman, about forty years of age, was run over by a mail-coach, one of the wheels of which passed lengthwise over her back, and fractured several of her ribs on the right side. When brought to the hospital, she breathed with much difficulty, and an emphysema of the integuments had taken place. An opening was made through the skin to let out the air; and the emphysema did not afterwards spread. The patient was bled largely; but the difficulty of breathing

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had increased to the third day, at which time I first saw her, in company with Mr. Harvey, under whose care she was. She had passed the preceding night without the least sleep, and breathed at this time with extreme difficulty; indeed it seemed as if she could not long continue the labour of such imperfect and distressful respiration. It was supposed that one side of the thorax was filled with air; and as it was suspected that the opposite lung might be oppressed by this cause, it was agreed to extract the air from the right side of the chest. With this view, Mr. Harvey made an opening into the thorax, in the following manner: He first made an incision about two inches in length, through the integuments, near the middle of the seventh rib, and opposite to its lower edge. He then drew the skin upwards, so as to expose the intercostal muscles which connect the upper edge of this rib to the one above it. These he cautiously divided, as he next did the pleura. At the time this was effected, I believe the patient was in the act of expiration; for a blast
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of air evidently issued from the thorax ; and afterwards, whilst the integuments were kept retracted, and the aperture in the pleura consequently uncovered, the external air continued to rush in during the enlargement of the thorax, and to be forced out again during its contraction. But when the divided skin was allowed to descend to its natural situation, and thus the opening in the pleura was covered, no farther passage of air took place ; and all that could then be perceived, was a depression of the integuments opposite to the aperture in the thorax, occasioned by the pressure of the atmosphere during the enlargement of that cavity. I had got ready a large injecting syringe, and introducing the pipe into the cavity of the chest, I drew up the piston, and thus exhausted the air, till I found I was stopped from proceeding, by the lung, which had risen up and applied itself to the mouth of the syringe. The skin was then immediately brought down over the aperture in the thorax, and served, like a valve, to prevent the farther ingress of air into that cavity. About ten ounces measure of air might probably

have been thus extracted by the syringe. As this quantity of air could have occupied but a small space when compared with the size of the thorax, it was probable that the back part of that cavity was filled with fluids.—Nothing further, however, was done at this time ; and shortly after the poor woman fell asleep, and breathed with comparative ease for nearly six hours. But the difficulty of breathing again increased during the night, and, at noon on the following day, was nearly as great as ever. Mr. Harvey and I agreed, however, that it would not be wrong to inspect the thorax, to see if the lung had collapsed, or if we could by any means afford relief to the patient. Upon separating the adhesion which had formed between the skin and subjacent parts, and introducing a finger through the aperture in the pleura, we found the lung adhering to the inside of that membrane ; but upon slightly varying the patient's posture, some turbid bloody serum flowed from beneath the lung. When we had discharged as much of this fluid as we conveniently could, the external wound was closed ; but the patient continued

continued to breathe with increasing difficulty till about midnight, when she died.

Dissection.

On examining the body, no air was discovered in the cavity of the chest. The right lung was partially inflated, and the anterior part of it closely adhering to the pleura costalis, as far as the place where the opening had been made. About three pints of bloody fluid lay in the hollow of the ribs posteriorly, and about half filled the cavity of the chest on that side ; the surface of it being nearly on a level with the opening which had been made to exhaust the air. Upon the surface of this fluid, the half-inflated lung seemed to float. —I looked for the place where the lung had been wounded by the injury ; but cannot say that I could perceive it. It was, however, certainly healed ; for the lung bore inflation without letting the air escape from it. The pleura was covered with coagulated lymph. The cells of the lung contained a quantity of fluid, and the whole substance of it was of a

livid colour.—The cells of the lung of the opposite side of the chest also contained more than their ordinary quantity of fluid; its vessels were turgid, and it was hard and thickened in several places; which was probably owing to former disease. There was likewise more than a usual quantity of turgid serum in the left cavity of the thorax.

It seems to me highly probable, that there are two states of the lungs in emphysema; one of which, indeed, I have never proved by examination, and am led to believe the existence of it merely from reasoning. I have seen so many cases of emphysema attended with very little difficulty of breathing or other inconvenience, indeed, proceeding in a manner so like cases of fractured ribs unaccompanied with wounds of the lungs, that I cannot suppose patients were in these cases reduced to the necessity of breathing with one lung only. These patients indeed were all treated in the manner recommended and practised by Mr. Blizard.

Blizard. That excellent surgeon, observing the great pain and irritation which the constant motion of the fractured ribs occasioned, was induced to disregard the emphysema, and to confine the motion of the ribs by a tight bandage, in the same manner as when the lungs are uninjured: afterwards the patients were largely bled, and other evacuations freely pursued. This practice he has since continued with general success. I also have seen this treatment attended with such frequent and complete success, as induces me to believe, that under such circumstances the wounded lung continues in very many cases to fill the cavity of the chest. The pressure of the bandage in general prevents the air from escaping out of the wounded lung, and pervading the cellular substance. It will, perhaps, appear probable to many surgeons, that, for this very reason, the air will be likely to insinuate itself between the two pleuræ, and thus occasion a collapse of the lung. I do not, however, see any good reason for such a supposition. The two pleuræ remain in their natural state of contact; and there is no space for the

air to pass between them. So frequently also are there adhesions between the surface of the lung and the sides of the thorax, that I think, in some of the cases of emphysema which I have seen, this circumstance must have occurred, and that if the lungs had receded from the sides of the thorax, the symptoms would have indicated the laceration or stretching of these adhesions.

An idea has generally prevailed among surgeons, that if the pleura costalis were divided in the living subject, the lung would immediately collapse, as it is usually found to do in the dead one. But M. Bremond* has shewn by experiments, that not only when an opening is made into the cavity of the thorax, but even when some of the ribs are removed, the lungs still occupy their natural situation, and are even thrust up into the opening during expiration. Mr. Norris has also lately shewn, by experiments undertaken for this purpose, as well as by observations on the effects of accidents, that frequently the lungs do not collapse when the cavity of the chest is ex-

* Memoires de l'Acad. des Sciences, 1739.

posed in the living animal* ; and I have also had occasion to observe, on dividing the pleura costalis in a case of supposed hydrothorax (in which, however, no water was found), that the exposed lung did not collapse ; a circumstance which, I think, ought to encourage us to a more frequent performance of such an operation. In other experiments, however, the lungs have been known to collapse ; and the circumstances on which either of these effects depends, are not perhaps well understood.

For these reasons, I believe, that in most cases of emphysema succeeding to broken ribs, pressure by bandage not only hinders the air from diffusing itself through the cellular substance, but serves to prevent it from escaping out of the wounded lung, and of course facilitates the healing of the wound, which would be prevented by the constant transmission of air. Its early application, therefore, will often prevent a very troublesome symptom, whilst at the same time, by keeping the fractured bones from motion, it greatly lessens the sufferings of the patient.

* Memoirs of the Medical Society of London, Vol. IV. p. 440.

In some cases where the lungs are wounded by the ribs, the air does undoubtedly get into the cavity of the thorax, as happened in the poor woman already mentioned, and as I have also seen in other instances. When the air passes from the wounded lung into the cavity of the chest, and the lung becomes in consequence collapsed, still the symptoms and progress of the complaint will differ from the effect of circumstances which have not been much attended to. When the wound in the sides of the thorax allows of the expulsion of air from that cavity during expiration, and does not admit air during inspiration, it is not to be supposed that the wound of the lung can heal; for the cavity of the thorax must, under these circumstances, be filled from the wounded lung every time that it is enlarged during inspiration.

But this state of circumstances, which is so particularly injurious, and which usually takes place when the lung has collapsed in the manner described, it is the business of the surgeon to remedy; and it may be accomplished in two ways :

ways: First, by preventing the escape of the air from the cavity of the chest, in which case the necessity of its being filled from the wounded lung will, in a great measure, be done away. And as I know surgeons have apprehended, that if an outlet was not given to air from the cavity of the chest, the opposite lung might become oppressed, I beg them to reflect a little on the state of respiration under these circumstances.

To examine this subject, let us suppose the thorax expanded, and one of its cavities filled with air, at which time the patient attempts to make an expiration; what will be the effect? The air cannot return through the wound in the lungs; and we have supposed that it cannot escape through that in the pleura costalis. The muscles of respiration are unable then to produce any considerable change in the dimensions of the cavity, without an exertion productive of pain, which it is not probable that they will make; the inactive diaphragm will not be thrust up into the hypochondrium as in natural expiration, and the ribs will remain nearly stationary;

ary; but in proportion to the degree of the expiratory effort that is made, the air may be condensed, and the mediastinum thrust to the opposite side of the chest. But no injury will arise from this pressure, neither can it happen in any great degree; for both sides of the chest being diminished at the same time, a slight compression of the opposite lung cannot be detrimental, since it helps to express the air from it,—the very effect which is now required; and as that lung is pressed inwards by the sides of the thorax, it will counteract any great pressure made on the mediastinum. Upon inspiration taking place, the condensed air will expand and fill the enlarged cavity, and the mediastinum will regain its natural situation; so that the function of the sound lung is scarcely, if at all, impeded by the compression which takes place on the opposite side of the chest.

In whatever state the lungs happen to be when they are wounded, a bandage, if it can be borne, seems therefore to me extremely useful. By means of it, the pain and irritation which the
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motion of the fractured ribs must otherwise occasion, are in a great measure, or entirely, prevented. In that state of the lungs which I have first described, the pressure of a bandage prevents emphysema, and does no harm; in the other, it not only prevents emphysema, but does good, by keeping the collapsed lung at rest, and thereby free from the necessity of constantly transmitting air. Patients, however, will not always be able to wear a bandage when one lung is collapsed (particularly if any previous disease has existed in the other), as it equally confines the motion of the ribs on both sides, and as every possible enlargement of the chest becomes necessary for the due admission of air into the lung which still executes its functions. Under these circumstances, if the emphysema continues (and its continuance must always denote that the wound in the lung is not closed), I should esteem it the best practice to make a small opening into the chest, so that the external air might have free communication with that cavity; and then the injured lung must remain motionless till its wound is healed, and
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the mediastinum will, in every state of the thorax, preserve its natural situation.

As almost all the circulating blood must, in such cases, be transmitted through the vessels of one lung, if the quantity of that fluid be not greatly diminished, the pulmonary vessels will become turgid; a larger effusion of fluids will therefore take place into the air-cells, and cavity of the chest, and thus the function of the acting lung will be materially impaired. This reasoning illustrates what experience has already determined, viz. that the preservation of life in these cases depends on the most copious blood-letting.

The case which I have related, clearly shews, that the collapsed state of the lung affords an opportunity for the wound of its surface to heal: and when this desirable event is accomplished, the air which is at that time in the cavity of the thorax, will be speedily absorbed, and the lung will again acquire its former size and situation. But should the function of it be more immediately necessary,

from a diseased state of that on the opposite side, or from other circumstances, it may be more quickly restored by exhausting the air, in the manner described.—If the cavity of the chest contain a quantity of fluids, and it is thought right to extract them, it cannot well be done by varying the posture of the patient so as to let them run out of the opening that has been made: the difficulty with which respiration is performed, will render such an attempt almost insupportable to the patient. It would therefore be better to introduce a hollow bougie, or some such instrument, into the posterior part of the thorax, there connect it to the syringe, and thus extract the contained fluids: I need scarcely add, that the same method may be employed with advantage for the extraction of water from the cavity of the chest in hydrothorax.

The great advantage of retaining the lung in a collapsed state is, if possible, more strikingly shewn when those bodies have suffered a greater degree of injury than can occur to them from the fracture of a rib. I have seen
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cases in which bullets have passed through the lungs near the root of those bodies, and where many of the large vessels were consequently torn, in which the blood has been poured into the cavity of the chest, has condensed the lung by its pressure, and thus suppressed the hæmorrhage. The injured vessels might, under these circumstances, unite; and the blood being let out of the thorax, the lung might gradually be restored to its former function. Yet in the cases which I was a witness to, the patients died of inflammation and fever; but the particular nature of the circumstances was unknown during the life of the patient; and of course the conduct appropriated to them was not pursued. The fluids contained in the cavity of the thorax had in these cases undergone a degree of putrefaction previous to the patient's death; which state required their discharge.

But should this be attempted in other cases, it becomes very essential to keep the thorax filled with air, lest the lungs should become prematurely inflated, the newly-healed part
lacerated,

lacerated, the hæmorrhage renewed, or inflammation induced; and the surgeon would be able, I believe, without much contrivance, to regulate the inflation of the lungs, as circumstances seemed to indicate. Surgeons used formerly to keep canulæ in the thorax in these cases, with a design to give an outlet to fluids; but such means might have been beneficial by preserving the lungs collapsed; and they might have been continued from being found serviceable, though the manner in which they became so was unknown.

Of the Use of Mercurial Fumigations.

In addition to these cases which occurred at the hospital, I think it may be useful to give an account of some others, in which mercurial fumigations were employed for the cure of the venereal disease, after the manner recommended by the Chevalier Lalouette: for I have witnessed so much comfort as well as benefit arising from them, that I think, if their peculiar advantages were generally known to practitioners, they would be much more frequently employed. As I believe the relation of cases will afford, in the shortest manner, the clearest view of the peculiar utility of this mode of employing mercury, I shall therefore present the reader with an account of a case of each class, in order to shew the advantages which attend this method of using that medicine: First, from its affecting the constitution when other means have failed; and, secondly, from its producing
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its effects in a much shorter time than any other mode requires.

I beg leave, however, previously to observe, that the term, mercurial fumigations, is apt to excite wrong ideas of this method in the minds of surgeons. Fumigations have been, of late, generally employed to correct local diseases; and they have often, by design, been made of an acrid quality. And even when they were formerly employed with a view of affecting the constitution, it was at a time when the chemical compounds of quicksilver were not understood, and sufficient attention was not paid to those circumstances on which the success of their application depends.

But, in the year 1776, the Chevalier Lalonette, a physician at Paris, laid before the public an account of a new mode of mercurial fumigation, free from the inconveniencies of former ones, and which, in the space of thirty-five years, he had successfully employed in more than four hundred cases, that had re-

fisted all the ordinary methods of cure. His method consisted in enclosing the patient, previously undressed, in a kind of box resembling a sedan chair, with an opening at the top to let out the head, and another at the bottom, to which was fitted a small grate or furnace, having in it a heated iron for converting the mercurial remedy into fume. The preparation he made use of was a kind of calomel, which, by repeated sublimation from iron-filings, was so far deprived of its muriatic acid, as to be in part reduced into running quicksilver; and, while it possessed considerable volatility, was perfectly irritating. Some of this powder being strewed upon the hot iron placed below, was immediately converted into smoke, which surrounded the patient's body, and after some time settled on his skin in the form of a white and very fine calx of quicksilver: a complete dress, having its inner surface fumigated with the same powder, was then put on.—The remedy being thus generally applied to the mouths of the cutaneous absorbents, soon got admission into the
circu-

circulating fluids; and the constitution became thereby more speedily affected than by any other process known before.

For a more particular account of the chemical preparations used by M. Lalouette, and his manner of employing them, I must refer to his treatise, which was published in 1776.

With regard to the process, I would only farther observe, that the feelings of the patient during it, are not at all unpleasant, provided the heat be properly regulated; that there is nothing uncleanly or disagreeable in the powder applied to the skin; and that all who have had an opportunity of comparing it with the common method by inunction, have been highly pleased with the superior advantages attending it.

C A S E I.

In Sept. 1788, a young man had both his tonsils affected with venereal ulceration. This complaint came on after a bubo ; and a great deal of mercury had been given for it without effect ; for, being naturally healthy, and his bowels not easily disturbed, he had taken, on an average, from two to three grains of calcined quicksilver, or calomel joined with opium, every day for three months ; and had also used mercurial ointment during the same period, beginning with two drachms, and gradually increasing it to an ounce daily : besides which, he had for a short time taken a solution of hydrargyrus muriatus. Yet all this scarcely produced any foreness of his gums, or caused any visible amendment in the ulcers of his throat ; the only effect it had, being that of preventing them from becoming worse. His bowels indeed were occasionally disturbed by the medicines, but were easily quieted by opium. To rub in the quantity of mercurial ointment used towards the latter part of the course,

course, the patient spent nearly an hour and half every night and morning ; but as he became weaker, he perspired considerably in consequence of this exercise, which tended to frustrate his endeavours by preventing, or at least greatly diminishing, the absorption of the medicine.

No ground being gained by pursuing this plan, Mr. Blicke recommended mercurial fumigation according to Lalouette's method, which he had occasionally employed with success, and which would not only relieve the patient from the fatigue of rubbing in the ointment, but prevent any farther irritation of his bowels, by superseding the internal use of mercury. The patient was accordingly exposed, for half an hour each night, to the fumes produced from half an ounce of the powder already described ; by which means, in less than a fortnight, his constitution and mouth became properly affected by the mercury ; the ulcers healed soon afterwards ; and in less than a month he was permitted to discontinue the remedy.

I could relate many other cases in which fumigation accomplished, with facility, the cure of complaints which had resisted long-continued mercurial courses both by friction and internal exhibition; but I have selected this, as being rather a striking example of the difficulty which we sometimes experience, of introducing into the system, in the ordinary modes, a sufficient quantity of mercury to affect the constitution. It is reasonable to think, that this object will be more certainly obtained by the absorption thus taking place from almost the whole surface of the body, than by any other method hitherto devised. Yet it is but right to say, that my hopes of success from it have not always been fulfilled; and that, in some few cases where mercury shewed a particular tendency to act on the bowels without affecting the mouth, the mercurial fumes seemed to produce this effect even sooner than the ointment had done: and in one young man, whose mouth neither frictions nor the internal use of mercury could be made to affect, but in whom they occasioned constant tremors of the muscles,

cles, and spasms of the bowels, the fumigations were not attended with any better success. Happily, however, such cases are rare ; and in general the fumigations affect the constitution speedily, and in the usual manner.

The remarkable benefit resulting from this method of fumigation in the case mentioned above, rendered me very solicitous to introduce the practice of it into the hospital. I accordingly got a quantity of the powder prepared at the laboratory ; and by using it rather more liberally than M. Lalouette directs, I found that I could in a very short time completely affect the constitution ; a circumstance which I consider as a very important advantage attending this mode of employing quicksilver. Although I had satisfied myself both of the speedy and effectual operation of the medicine, exhibited in this manner, I did not, however, persist in its use ; for I judged, that though the experiment should prove harmless, it could not be proper to excite a sudden and powerful constitutional affection by this mineral,

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ral, where neither the obstinacy of the case nor the rapid progress of the disease particularly called for it.—Out of the six cases of which I took notes, I shall relate only one, to shew how quickly, by this mode, the medicine can be made to operate.

As the fumigating powder used by M. Lalonette was a very operose, and consequently a very expensive preparation, and appeared to have no advantages over one made by abstracting the muriatic acid from calomel by means of volatile alkali, I have always employed the latter, which is prepared at the hospital in the following manner: Two drachms of aqua ammoniæ are added to six ounces of distilled water, and four ounces of calomel are thrown into this liquor, and shaken up with it; the powder is afterwards separated by a filter, and dried.

The powder thus obtained is of a grey colour, and contains a good deal of quicksilver in its metallic state, which of course is extremely volatile, but becomes oxydated when raised

raised into fume, and afterwards condenses into a white and very fine dust.

This mode of using mercury is not, however, so well adapted to hospital practice; for sometimes the iron was too much heated, and the patients were made by this means to perspire profusely, so that the powder was formed into a paste, which was irregularly incrusted on the skin; besides, the patients either could not or would not wear a complete under-dress; and in that case the powder was wiped away, and the plan of treatment frustrated: for the design is to allow of a constant absorption of this subtile preparation of quicksilver from the whole surface of the body.

C A S E II.

A young woman, twenty-five years of age, was admitted into the hospital, with chancres and a venereal sore throat. Both tonsils were enlarged, and on each there appeared a deep ulcer about the breadth of a shilling, having white irregular edges. On the 19th of December,

cember, half an ounce of the powder was used at one fumigation ; which treatment was again repeated with the same quantity on the night of the 20th, and both on the night and morning of the 21st. As she then complained of head-ach and faintness, the fumigation was discontinued. On the 23d, her gums were much swelled and very sore : the prominent margins of the ulcers in her throat had subsided greatly, and the surface of the tonsils now hardly appeared to be ulcerated. During the three following days, the soreness of the mouth increased, and in that time the ulceration in the throat had become scarcely visible : the chancres also were healing fast. On the 27th, two drachms of the powder were used in fumigation ; and the next day she was seen by all the surgeons of the hospital, who agreed that her mouth was too sore to justify the continuance of the remedy.—On the 1st of January, her mouth remained properly sore ; the chancres were quite healed ; and only a slight redness was perceptible in the throat, which seemed more like the effect of mercurial irritation, than of her former disease.—On the

the 2d of January, two drachms more of the powder were used. On the 4th, her mouth was less sore; and Mr. Blicke having examined her, considered her complaint as perfectly cured. To make more sure, however, I directed that she should be fumigated with two drachms that day, and the same to be repeated on the 6th; after which she was discharged from the hospital, and promised to come back if she found any return of the disorder.

The other cases in which this method was tried, were so similar in their circumstances and events, as to render a particular recital of them unnecessary. In every one, a considerable affection of the constitution was excited in the space of three or four days. It is to be presumed, that these patients had no particular idiosyncrasy in respect to the operation of quicksilver. Those who are affected by that medicine slowly and with difficulty, might perhaps have withstood its action for a longer time.

It may surely be an advantage to be able, in the generality of patients, not merely in venereal, but in other diseases, to produce so sudden and complete a *mercurial* affection of the system.

I have heard it objected, that fumigation cannot be depended on for the cure of lues. But I never knew it fail, nor do I see why mercury, used thus, should, when absorbed, prove less effectual than when this mineral is combined with lard in the common ointment. If fumigations in this mode have failed, it was more probably owing to their being improperly managed, than to any insufficiency peculiar to them. Thus, if administered frequently and largely at first, they may have considerably affected the mouth without proportionally affecting the constitution in general ; or, from the quickness with which they heal venereal ulceration, the cure may have been too soon supposed complete, and their use discontinued before they had entirely eradicated the disease. Under proper management, I have no doubt but mercury, employed

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in this manner, will be found adequate to the cure of every variety of the disease.

Besides their general application, there is another way in which mercurial fumigations may be occasionally employed with advantage, though the benefit is less important; and perhaps this method may be regarded merely as a refinement in the practice of surgery. In local disease of the joints, such, for instance, as frequently takes place in the knee, and in sarcomatous enlargements of the breast in women, Mr. Sharp and Mr. Blicke have been long accustomed to direct fumigated stockings, or under-waistcoats, to be worn; when the complaints have been relieved, and the constitutions of the patients affected, without the trouble and unpleasantness arising from the use of the common mercurial ointment.

The information which the author of these Essays had acquired in the practice of his profession,

fection, and which he has in these pages submitted to the public, was not obtained without labour ; nor could it have been acquired unless he had possessed opportunities which do not fall to the lot of many surgeons. These observations were therefore published from a belief that the knowledge, which he esteemed of some value, might be likewise considered so by others, who had not the same means of obtaining it.—Continual employment of other kinds has prevented the author from paying that attention to the finishing of these papers, which the public have a right to expect : he however felt, that if their publication was postponed, other engagements and pursuits would occupy his attention, and render him less capable of offering them even in their present state.

SURGICAL
OBSERVATIONS.

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SURGICAL OBSERVATIONS,

CONTAINING

A CLASSIFICATION OF TUMOURS, WITH CASES TO ILLUSTRATE THE HISTORY OF EACH SPECIES;—AN ACCOUNT OF DISEASES WHICH STRIKINGLY RESEMBLE THE VENEREAL DISEASE;—AND VARIOUS CASES ILLUSTRATIVE OF DIFFERENT SURGICAL SUBJECTS.

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AN
A T T E M P T
TO FORM
A CLASSIFICATION OF TUMOURS
ACCORDING TO
THEIR ANATOMICAL STRUCTURE.

THE observations which I have had an opportunity of making in St. Bartholomew's Hospital, on the various tumours which occur in the human body, have been so numerous, that I have almost felt myself under the necessity of forming some classification of those diseases. This classification I have attempted according to their anatomical structure, which allows, at the same time, of a corresponding arrangement of those practical remarks that have been promiscuously collected. I have long felt so sensibly the advantages resulting from an orderly arrangement of this extensive subject, that I have

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taught it for some years in my Lectures in the manner exhibited in the following pages. I am far, however, from being satisfied with the method which I have adopted, but it is the best that I have been able to devise ; and, at least, it has this utility, that it admits of a number of important cases being arranged in a perspicuous manner, and prevents that obscurity which a total want of order necessarily creates.

My motives for laying this paper before the Public are ; first, a conviction, that an extensive knowledge of this subject, such a knowledge as would lead to an attempt at classification, and to ascertaining the peculiarities which characterize the different species of tumours, can only be obtained by those who have very ample opportunities of observation. But it is probable that, when the subject in general has been surveyed, and its parts pointed out, that those parts may be discriminated and examined with accuracy and advantage, by persons who have not had opportunities of contemplating the whole. 2dly, The minds

minds of medical men having of late been laudably excited to investigate the nature of cancer, in hopes of discovering something serviceable in that dreadful disease. It becomes therefore right to remark, and it will appear from the following account, that there are many local tumours and ulcers, as intractable in their nature, and destructive in their progress as cancer, which are liable to be confounded with that disease, but which ought to be distinguished from it, before any progress can be made in this difficult part of medical science. The society for the investigation of the nature of cancer have enquired about the anatomical structure of that disease, and about other disorders which have a resemblance to it. In the present paper I have attempted to reply to such interrogations, as far as my knowledge enables me. It appears to me, that, in order fully to investigate any subject with advantage, a great deal of collateral knowledge is required, which serves, like light shining from various places, to illuminate the object of our researches. I am not without hopes that this paper will

tend to point out the required distinctions, and furnish such collateral knowledge.

In engaging in a new undertaking, I am likely to expose my own deficiencies of information; and by adopting a new and perhaps injudicious arrangement, and employing new and perhaps unfit terms, I may lay myself open to criticism and censure. I am not unwilling, however, to encounter these risks, when I have it in view to bring a difficult and interesting subject fairly before the public; in hopes that, by exciting the attention and engaging the labours of many persons, it may, at length, acquire that perfection of which it is susceptible, and which could never be brought about by the exertions of a few individuals.

The subject of tumours occupies a considerable space in the works of the antient writers on medicine. They seem, however, to have considered the subject, rather with regard to its name than its nature; for we find a great variety of dissimilar diseases collected,

lected, I cannot say arranged, under the same general title. The error has descended to us, and even in Dr. Cullen's Nosology we find diseases of arteries, veins, glands, tendons, joints, and bones, brought together under one order, and designated by the same name of *tumours*. Some of these also are merely enlargements of natural parts; whilst others are entirely new productions, having no existence in the original composition of the body. We have, I believe, sufficient knowledge of the nature of these diseases to class them more scientifically; and as this has not yet, as far as I know*, been done, I shall endeavour to supply the deficiency.

In the definition which I mean to give of tumours, I shall trespass as much against the usual import of the word, as nosologists have hitherto done in their classifications against

* Plenck published, 1767, a work intitled "Systema Tumorum," which I have not seen, but I conclude that it does not resemble the present attempt; since no arrangement, like that which I have made, is to be met with in the *Encyclopédie Methodique*.

the nature of the disease. For I shall restrict the surgical signification of the word "Tumour" to such swellings as arise from some new production, which made no part of the original composition of the body; and by this means I shall exclude all simple enlargements of bones, joints, glands, &c. Many enlargements of glands are however included in the definition, as they are found to be owing to a tumour growing in them, and either condensing the natural structure, or causing the absorption of the original gland. Sometimes also the disease of the gland seems to produce an entire alteration of structure in the part; the natural organization being removed, and a new-formed diseased structure substituted in its stead. In either of these cases the disease of the gland is designed to be included in the definition; and the practical remarks which follow will equally apply to the same kind of diseased structure, whether it exists separately by itself, or occupies the situation of an original gland. The structure of tumours is also a part of morbid anatomy which deserves to be examined; since (as it did

did not come within the scope of the undertaking) it has not been fully discussed by Dr. Baillie in his very valuable treatise on that subject. Yet as he has given representations of glandular parts enlarged by a diseased structure of an entirely new formation ; so I shall have the advantage of referring the reader to his accurate and expressive representations of some of those appearances which it is my purpose to describe. There is an observation of this judicious and accurate writer which I shall take the liberty of inserting, since it justly appreciates the degree of utility of investigations like the present : he observes, “ that the knowledge of morbid structure does not lead with certainty to the knowledge of morbid actions, although the one is the effect of the other ; yet surely it lays the most solid foundation for prosecuting such enquiries with success. In proportion, therefore, as we shall become acquainted with the changes produced in the structure of parts from diseased actions, we shall be more likely to make some progress towards a knowledge of the actions themselves, although it must be very slowly.”

The incipient state of tumours will naturally first engage our attention; and those which perhaps form the best example and illustration of the subject, are those which hang pendulous into cavities from the membranous surfaces which form their boundaries. The cause of tumours having a pendulous attachment attracted the attention of Mr. Hunter, who made the following remarks on the formation of one on the inner surface of the peritoneum, as is related by Mr. Home in the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, Vol. i. p. 231. "The cavity of the abdomen being opened there appeared, lying upon the peritoneum, a small portion of red blood recently coagulated; this, upon examination, was found connected to the surface upon which it had been deposited by an attachment half an inch long, and this neck had been formed before the coagulum had lost its red colour." Now had vessels shot through this slender neck, and organized the clot of blood, as this would then have become a living part, it might have grown to

to an indefinite magnitude, and its nature and progress would probably have depended on the organization which it had assumed. I have in my possession a tumour, doubtless formed in the manner Mr. Hunter has described, which hung pendulous from the front of the peritoneum, and in which the organization and consequent actions have been so far completed, that the body of the tumour has become a lump of fat, whilst the neck is merely of a fibrous and vascular texture. There can be little doubt, but that tumours form every where in the same manner. The coagulable part of the blood being either accidentally effused, or deposited in consequence of disease, becomes afterwards an organized and living part, by the growth of the adjacent vessels and nerves into it. When the deposited substance has its attachment by a single thread, all its vascular supply must proceed through that part; but in other cases the vessels shoot into it irregularly at various parts of its surface. Thus an unorganized concrete becomes a living tumour, which has at first no perceptible peculiarity

culiarity as to its nature ; though it derives a supply of nourishment from the surrounding parts, it seems to live and grow by its own independent powers ; and the future structure which it may acquire, seems to depend on the operation of its own vessels. When the organization of a gland becomes changed into that unnatural structure which is observable in tumours, it may be thought in some degree to contradict those observations : but in this case the substance of the gland is the matrix in which the tumour is formed.

The structure of a tumour is sometimes like that of the parts near which it grows. Those which are pendulous into joints, are of a cartilaginous or osseous fabric ; fatty tumours frequently form in the midst of adipose substance, and I have seen some tumours growing from the palate, and having a slender attachment, which in structure resembled the palate. Sometimes, however, they do not resemble in structure the parts from which they grow. The instance just mentioned, of the pendulous portion of fat growing

growing from the peritoneum, will serve as an instance: the vessels which had shot into it, made the tumour into fat, whilst the neck was of a fibrous and vascular structure. I have seen ossaceous tumours unconnected with bone or periosteum; and indeed, in general, the structure of a tumour is unlike that of the part in which it is produced. Therefore we seem warranted in concluding, that in many cases the nature of the tumour depends on its own actions and organization; and that, like the embryo, it merely receives nourishment from the surrounding parts.

If, then, the coagulable part of the blood be from any cause effused, if the adjacent absorbents do not remove it, and the surrounding vessels grow into it, the origin of a tumour may be thus formed. It may be right to reflect a little on the causes which may occasion a deposition and consequent organization of the coagulable part of the blood; as such reflections throw light on the nature and growth of tumours, and lead to the establishment of principles, which are applicable

applicable to tumours in general. The deposition of the coagulable part of the blood may be the effect of accident, or of a common inflammatory process, or it may be the consequence of some diseased action of the surrounding vessels which may influence the organization and growth of the tumour.

In the former cases, the parts surrounding the tumour may be considered simply as the sources from which it derives its nutriment, whilst it grows apparently by its own inherent powers, and its organization depends upon actions begun and existing in itself. If such a tumour be removed, the surrounding parts, being sound, soon heal, and a complete cure ensues. But if a tumour be removed, whose existence depended on the disease of the surrounding parts which are still left, and this disease be not altered by the stimulus of the operation, no benefit is obtained : these parts again produce a diseased substance, which has generally the appearance of fungus, and, in consequence of being ir-

ritated by the injury of the operation, the disease is in general increased by the means which were designed for its cure. It appears therefore that in some cases of tumours, the newly formed part alone requires removal, whilst in others the surrounding substance must be taken away, or a radical cure cannot be effected.

There is yet another circumstance deserving attention, before I proceed to the particular consideration of the subject; which is, that a tumour once formed, seems to be a sufficient cause of its own continuance and increase. The irritation which it causes in the contiguous parts, is likely to keep up that increased action of vessels which is necessary to its supply; and the larger it becomes, the more does it stimulate, and of course contribute to its own increase.

Suppose then a tumour to have formed, and increased; it will continue to grow and to condense the surrounding cellular substance, and thus acquire for itself a kind of capsule.

Tumours

Tumours are more closely or loosely connected to the surrounding parts; which circumstance seems to depend upon the degree of stimulus which they occasion, and the inflammation which they thus excite. This irritation perhaps may be the cause why some tumours which are slow in their first increase grow rapidly after they have acquired a certain size.

These preliminary observations will be referred to when the different kinds of tumours are described. When the history of different kinds of tumours is spoken of, there will be frequent necessity to advert to the effects of medical treatment upon them, it therefore seems right to premise a few words upon that subject.

It can scarcely be doubted but that when tumours form and grow, that there exists an increased state of action in the adjacent vessels, and the first curative intention in these diseases, will therefore be to repress as much as possible this unusual exertion of the vessels

fels which gives rise to the formation of a tumour, and, by its continuance, causes its increase.

I know of no local measures to diminish an increased or inflammatory action of any part of the body more rational in theory, or more efficacious in practice than those of taking away the two great causes of animal actions, the blood and heat of the disordered part. The former is generally accomplished by means of leeches applied in its vicinity, which should be repeated as circumstances indicate, and the latter, by the application of folded linen, wetted with sedative lotions, by which a continual evaporation and constant abstraction of heat is kept up from the surface of the skin. The effect of this last mode of treatment is much more considerable than at first sight might be supposed. It operates on parts far beneath the surface. As heat is so transmissible a substance, so in proportion as the temperature of the skin is diminished by evaporation, it derives heat from the subjacent parts, and thus are their

morbid actions lessened. If by such means the growth of a tumour be suspended, another curative indication naturally arises which is to promote the absorption of the new formed substance.

This indication is generally attempted by means of a stimulating nature, such as frictions with mercurial ointment, pressure, and electricity, or by means which also excite some counter-irritation, as rubefacient plasters, solutions of salts, blisters, and issues. Both reason and experience equally demonstrate the impropriety of using the stimulating plan till the disease is first tranquillized, and in a degree subdued. It is reasonable to expect that stimulating measures will increase the actions, which are going on in the diseased part; and experience proves that diseases are often increased by those very means which, had they been employed at a proper time, might have effected their cure. The fact may be elucidated by a case that is, I believe, generally known and admitted, if a blister be applied for the cure of a pleurisy before

before evacuations are made use of, and the activity of the disease thus checked, it aggravates the disease; if afterwards, it speedily effects a cure. If a tumour or any local disease be for a time benefited by stimulating discutients, and the diseased actions recur in it with a degree of activity; it is better to desist from this latter plan of treatment, and adopt again the former one, till the disease is by such means rendered inactive.

I am so well convinced of the necessity of attending to the time and circumstances in which these remedies are applied, in order to give them their real efficacy in the cure of local diseases, that I have been induced to dwell longer on this subject than may perhaps to some seem necessary.

When a blister is made permanent, or a seton or issue is made in the vicinity of a disordered part, it is in fact producing a new but curable disease, in order to detract from an old one, over which we have less controul. But here the same observations apply. We

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should

should not produce a new disease till the active state of the original one is diminished, and till it is, as it were, rendered dormant; for otherwise the irritation of the intended remedy will rather tend to the aggravation than the cure of the disorder; it will also increase the febrile disturbance of the constitution, by adding to the causes of irritation.

Such are the local means of treating tumours, as well as other local diseases, and to these I shall have occasion to refer. I cannot speak of the general means usually employed to operate on these disorders without entering into a long and, I think, unnecessary discussion.

In attempting a classification of tumours, I shall suppose that they may be made to constitute an Order in the class of local diseases in nosology; and the meaning of the word may be restricted, in the manner suggested, to substances of new formation, which made no part in the original structure of the body; the order may then be divided into genera,
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and the first genus may be denominated from its most obvious character, (that of having a firm and fleshy feel,) Sarcoma, or Sarcomatous tumours.

This genus contains many species, to a description of which I next proceed; the first of which I shall treat, being apparently composed of the coagulable part of the blood, rendered very generally vascular by the growth of vessels through it, without having any noticeable peculiarity in their distribution, may therefore be called

Common Vascular, or organized Sarcoma.

The names by which I have distinguished the different species of sarcoma have been objected to, because they are derived from internal circumstances, and not from any information, which can be acquired prior to an operation. I have not, however, been able to devise any better mode of denominating these tumours; for all the species must agree in the external characters, those of an increase of bulk, and a fleshy feel. If,

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however,

however, an arrangement of tumours was once made, so that the history of each species could be particularly remarked, we might perhaps be able, from this circumstance, to form a probable opinion of the nature of the tumour and of the mode of treatment which it would require ; and, by adverting to the structure of the removed tumour after an operation, we might determine whether it would be right to remove or leave the contiguous parts. It is designed then, to include under this title all those tumours, which appear to be composed of the gelatinous part of the blood, rendered more or less vascular by the growth of vessels through it.

The vessels which pervade this substance are, in different instances, either larger or smaller, more or less numerous : they are distributed in their usual arboresecent manner, without any describable peculiarity of arrangement. This kind of tumour seems to be the most simple in its nature ; many, perhaps all, of the varieties of tumours, were at first of this nature. The fatty tumour lately

mentioned was doubtless at first common vascular substance ; but the vessels secreted fat in the body of the tumour, whilst the neck underwent no such change.

It is then such tumours as are organized throughout, but without any distinguishable peculiarity of structure, that are meant to be considered under this title. This structure is met with not only in distinct tumours, but likewise in the testis, mamma, and absorbent glands. In the testis I have seen the vessels, very numerous and small, dispersed through every part of the tumour. In the mamma they seem to be rather large than numerous, and the organization appears less complete.

When this kind of tumour has attained a considerable size, the superficial veins appear remarkably large ; on which account, together with their curiously meandering course beneath the skin, they cannot fail to attract attention. Perhaps the weight of the tumour compresses the deeper seated veins, and

obliges the blood to return in larger quantities through those nearer the surface; or perhaps these vessels undergo a kind of sympathetic enlargement; for they do not appear to be distended by the blood which they contain.

These tumours are generally dull in their sensation; enduring even a rough examination by the hand, and electrifying, without becoming painful. I suspect that it is this kind of sarcoma, which sometimes, though rarely, suppurates; but as, when that event takes place, even partially, the rest of the substance is, in general, speedily removed by absorption, I have had no opportunity of ascertaining this circumstance.

These tumours generally grow till the skin is so distended that it ulcerates, and exposes the new-formed substance; which, being as it were obliged to inflame, and not being able to sustain disease, sloughs and falls out; sometimes portions seem to be detached, and come away without sloughing. In this manner

ner is the disease occasionally got rid of; but such is the constitutional irritation attending this process, and the disgusting fœtor and frightful appearance of the part, that the surgeon generally recommends, and the patient submits to its removal at this juncture.

As Cases will probably convey more information in less words than description or narrative, and as they identify the kind of disease which is meant to be described, and inform, as it were by example; I design to relate one or more *cases* of each kind of tumour, and thus curtail as much as I can my description of them.

C A S E.

A woman, between forty and fifty years of age, was admitted into St. Bartholomew's Hospital, on account of a considerable tumour which had grown on the inside of the knee, and had so concealed the tibia, that it could not be felt. She remembered it when of the size of an egg, but could give no in-

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formation

formation to our inquiries, whether in that state it was fixed to the bone, or moveable upon it. It measured two feet in circumference, and had been gradually increasing between three and four years. The veins were large, and formed an appearance like network on the surface.

As the tumour advanced in size it had gradually prevented her moving about till it entirely confined her to her bed. In this situation it was not painful till within half a year before her admission into the hospital; when, from the sense of distension of the skin, and the inflammation induced in that part, she became restless and feverish, and lost her flesh considerably. At length, the skin ulcerated, and the exposed tumour inflamed and sloughed at different times, so as to leave a cavity in it of the size of a pint-bason. From the sides of this cavity there was poured forth a most *copious and fetid* discharge: she had frequently lost blood from the vessels laid open by ulceration or sloughing; and, on her admission into the hospital

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she had a confirmed heſtical fever through weakneſs and irritation.

The ſtate of the patient's health, the magnitude of the tumour, the uncertainty of its origin, (for it was ſuppoſed to have ariſen from a diſeaſed bone) made amputation appear the only means of preſerving life. Upon an examination of the amputated limb, which was previously injected, this tumour was found to have no connection with the bone or joint upon which it lay. The lower part of the tumour was covered by a thin capsule, made apparently of condensed cellular ſubſtance, and it was looſely connected to the parts on which it lay; but on the ſurface of the tumour next the ſkin the capsule firmly adhered to it in conſequence of the inflammation which had taken place. The ſubſtance of which the tumour was compoſed appeared to have been originally of a coagu-
lable nature, and the veſſels which ramified throughout it, appeared to be rather large than numerous: yet this appearance might have ariſen from an imperfect injection.

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This single case is sufficient to convey all the general information on this subject, which I have obtained. It is unnecessary to add parallel instances, and I am unwilling to load the account with minute particulars, lest they should obscure the principal facts. Probably from the want of knowledge I may have included, without discrimination, many varieties in this species of tumour; and, perhaps, further observations will furnish more specific distinctions in these diseases. The subject is but begun; and the difficulty of the investigation will, I hope, apologize for the small advances which I have been yet able to make.

Adipose Sarcoma.

This is a very common species of sarcomatous tumour, and is formed most commonly on the front, or back part of the trunk of the body, and sometimes in the extremities.

Although it is generally formed in the midst of cellular and adipose substance, there
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can be little doubt that its origin is like that of other tumours; that, in the first instance, it was coagulable lymph, rendered vascular by the growth of vessels into it, and that its future structure was the consequence of their arrangement and actions. That this was the case in the pendulous tumours mentioned in the preliminary observations (page 9.) seems to be certain.

The distinct origin of such tumours is made sufficiently evident, by observing, that they have always a thin capsule of common cellular substance, which separates them from the contiguous parts. This capsule seems merely to be the effect of that condensation of the surrounding cellular substance, which the pressure of the tumour occasions. As the growth of adipose tumours is regularly and slowly progressive; as nothing like inflammation in general accompanies their increase; their capsules afford a striking instance of an investment acquired simply by a slight condensation of the surrounding cellular structure, unaffected by inflammation. The capsule,

fule, which is very thin, adheres but slightly to the tumour ; and the principal connection appears to be by vessels, which pass through it to enter the substance of the tumour. These vessels are so small and the connection so slight, that no dissection is required to separate it ; for when the tumour is to be removed, the hand of the operator can be easily introduced between it and its investment, and it is thus readily turned out of its capsule.

The vessels of adipose tumours are neither large nor numerous ; they are readily torn when the separation alluded to is attempted, and they scarcely bleed after it has been effected. It is natural to suppose when the greater part of a large tumour has been detached, and no vessel of consequence has been divided, that some principal nutrient artery will afterwards be met with, and this supposition produces an unnecessary hesitation on the part of the operator. There is indeed no species of tumour that can be removed with so much celerity, with such apparent

parent dexterity, or with such complete security against future consequences as those of an adipose nature. In some instances, however, when inflammation has been induced, the capsules even of these tumours are thickened, and adhere so as not to be separable without difficulty from their surface. To certify this remark I may mention the case of a man who had an adipose tumour growing beneath the skin of the nates, in which the pressure from sitting occasioned inflammation, and this kind of tenacious adhesion of the capsule to its surface. This circumstance made the separation of the skin from off its surface difficult, when the extirpation of the tumour was undertaken; but, after that was accomplished, the base of the tumour was lifted up and removed with great facility, and almost without the use of the knife. The under part of this tumour had not a regular surface, but projected in portions so as to have a lobulated appearance; a circumstance which is not unfrequent, and which deserves to be mentioned. From the occurrence of inflammation likewise these

tumours

tumours sometimes adhere to the contiguous parts ; of which circumstance the case which I am about to relate affords a curious example.

I have known several fatty tumours growing at the same time, in different parts of the body of the same person.

I shall take the liberty of giving an account of the extirpation of a very large tumour of this kind ; as the case is particularly interesting, and shews that the circumstances usually met with are unaltered by the size of the tumour.

C A S E.

A healthy middle-aged man had a tumour formed apparently beneath the fascia of his thigh, which he remembered when no bigger than an egg. It had increased by a regular and slow progress, in little more than four years, to a very great magnitude, such as may be easily supposed, when it is told, that it weighed, after removal, between fourteen
and

and fifteen pounds. It had been attended with no pain during its increase, and was now only inconvenient by its bulk.

The surgeons who first saw this patient would not undertake any operation, feeling an uncertainty as to the nature and connections of the tumour; though they all agreed that, when the skin gave way, there was but little chance of the poor man's surviving the consequences of such an exposure. Considering from the history of the case, that the tumour must have been removable in the first instance; believing, from its freedom from pain and irritation, that it was of no malignant nature, and that an operation was only alarming from its magnitude; I recommended the patient to see the most eminent surgeons in London, before he returned in despair to the country, from whence he had come for relief. Mr. Cline gave him more direct hopes of success than he received elsewhere, and he went into St. Thomas's Hospital to submit to the operation.

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When Mr. Cline had divided the skin and fascia of the thigh, the tumour was easily turned out ; but it had unfortunately acquired a ligamentous adhesion to the orbicular ligament of the hip, which could not be separated without, in some degree, injuring that part. This attachment appeared to be about half an inch in breadth and about one fourth of an inch in length. The cause and nature of this firm attachment to the ligament of the hip, seems the only circumstance peculiar to this case, or requiring explanation. It appears to me easily accounted for, by supposing the tumour to have compressed and irritated that part, and thus to have occasioned an adhesion, at first of a gelatinous nature, but which afterwards becoming organized, had assumed the structure of the parts, from whence it proceeded. In like manner tumours growing near, and compressing the surface of bones, frequently occasion a degree of exostosis.

No hæmorrhage followed the removal of the tumour. The wound at first appeared disposed to do well, but the patient became feverish,

feverish, and it did not unite by adhesion. There were also some symptoms indicating inflammation about the hip-joint. The man, however, surmounted these difficulties, and, after some months, was discharged from the Hospital.

There were two circumstances in the operation attended with danger ; one, the size of the wound, which could hardly be expected to unite by adhesion, on account of the irritation which from its extent must be created ; the other, this unlucky attachment to the ligament of the joint. It is to be lamented, that a disease, so readily removable in its commencement, should have been suffered to acquire a magnitude, which alone was a source of danger.

Pancreatic Sarcoma.

The next species of sarcomatous tumour which I shall describe, resembles in appearance the pancreas, and, on that account, may be named (if the etymological import of the

word be not considered as prohibitory) Pancreatic Sarcoma.

This new-formed substance is made up of irregularly shaped masses; in colour, texture, and size resembling the larger masses which compose the pancreas. They appear also to be connected to each other, like the portions of that gland, by a fibrous substance of a looser texture. This kind of sarcoma, though sometimes formed distinctly in the cellular substance, more frequently occurs in the female breast, perhaps originating in lymphatic glands; and, as cases of this kind sufficiently illustrate its nature and progress, and appear more interesting in proportion to the importance of the parts concerned, I shall select some instances of this kind, to shew those circumstances which seem most important in the history of this species of sarcoma.

I shall, however, first relate a case of this diseased structure occurring in the lymphatic glands beneath the lower jaw, and afterwards

speak of its progress when it takes place about the female breast.

A man came to St. Bartholomew's Hospital from Oxfordshire, with three diseased lymphatic glands, each of the size of a very large plumb. They were situated beneath the basis of the jaw, upon the mylohyoideus muscle. They resisted the attempts which had been made to discuss them ; and had not been removed from an apprehension that a dangerous hæmorrhage would take place in the operation. The glands had gradually, though very slowly, attained their present magnitude, for the disease was of fifteen years' duration. The surrounding parts were not affected. Sir Charles Blicke undertook and accomplished the removal of the diseased glands, the structure of which was exactly such as has been described. This case is related in the first place, as it shews most clearly the usual characteristics of this species of diseased structure ; which are those of slowly increasing, of not being

prone to inflammation, or tending to sup-
puration.

It may not be improper to mention, though it is irrelevant to the present subject, that, in the operation, the external maxillary artery was unavoidably divided. It did not, however, bleed immediately after the operation, so that this circumstance was not perceived; and the edges of the wound were brought together by one suture, and accurately and firmly closed by sticking-plaster. Shortly afterwards the patient felt a sense of choking, which increased to a state of almost actual suffocation. Indeed it seems probable that this might really have happened before any one could have got to his assistance, had not some of the plasters fortunately given way, and afforded some discharge to the blood: for a very great quantity of coagulated blood had collected within the wound, and compressed the trachea and pharynx to a greater degree than would readily be believed by those who had not witnessed the fact. This

circumstance is mentioned to shew the impropriety when there is any chance of hæmorrhage, of closing wounds so strictly by sticking-plaster, as to allow no exit to any blood that may be effused ; and it is particularly unsafe in circumstances similar to those of the foregoing case. If the hæmorrhage be but small in quantity, and the escape of the blood be prevented, it separates the sides of the wound which should lie in close contact, and thereby prevents their immediate union ; and, if it be considerable, it deserves to be remarked, that, so far is the compression which the confined blood must make on the arteries, from which it was poured, from stopping the bleeding, that it seems to be a stimulating cause, exciting an hæmorrhagic action in the vessels. This remark is manifested by the present, as well as by many other cases in surgery.

This kind of sarcoma frequently forms amidst the mammary gland, a little above, and on that side of the nipple, which is next to the arm. Its appearance would lead one

to suppose, that it was a lymphatic gland, which is usually found in that situation, converted into this structure; but sometimes it seems like a distinct tumour. It is the appearance of the capsule which invests the tumour, that has led me to form these opinions.

These tumours lessen in bulk if judiciously treated; but if they cannot be entirely dispersed, they increase gradually; and when they have attained some considerable size, they are generally removed, from apprehension of the consequences which they might produce, if they were suffered to remain. If the tumour be indolent, and if it increases slowly, the parts surrounding it, and the glands in the axilla are not affected. But some tumours formed by this kind of diseased structure, which do not unfrequently occur in the breast, are, contrary to the ordinary properties of such diseases, of a very irritable nature, occasioning severe and lancinating pain, and producing an inflammatory state of the skin which covers them, so that it becomes

comes adherent to their surface. They also irritate the absorbents leading to the axilla, and produce enlargement of their glands. From these circumstances I suspect that these tumours may be frequently considered as cancers. These extremely irritable tumours do not generally attain any considerable magnitude; they are reduced in size by the treatment which has been mentioned, but increase again, when it has been desisted from. Sometimes a tumour of this nature, which was irritable in the first instance, becomes indolent after the activity of the disease has been checked by proper local applications, but in other cases the irritability of the disease recurs. The pain is lancinating, and so severe as to make the patients feverish, grow faint frequently, and lose their muscular strength. When the axillary glands become affected, one generally swells at first, and is extremely tender and painful; but afterwards the pain abates, and it remains indurated: another then becomes affected, and runs through the same course. I remember an instance where many of the glands attained a considerable

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magnitude.

magnitude. The case was considered as cancerous, and the tumour, which was of the structure that has been described, and also some of the diseased glands were removed, but several were left, and the patient did well.

C A S E.

A young woman, who lived with me as a servant, suffered for more than two years severe pain, and considerable constitutional indisposition, from a tumour of this kind, which had caused inflammation and enlargement of three of the axillary glands. Being assured that it was not carcinomatous from its diminution under surgical treatment, I waited in hopes that some beneficial change would spontaneously take place; but at last, by her request, and, with the coinciding opinion of Sir Charles Blicke, I removed the original tumour, leaving the diseased glands in the axilla. The source of irritation being taken away, they gradually subsided, and the patient soon grew fat, and became and remained remarkably healthy. I have known many similar cases. As I have
preserved

preserved no notes, and do not perfectly recollect any case, of a tumour of this structure occurring in a distinct form, unless some of those about the breast may be so considered; and as I wish to shew that all these diseases occur distinctly as well as in glands, I shall, as an instance of a pancreatic appearance in a distinct tumour, refer the reader to the curious Case published in London by Dr. Bouttatz of Moscow, of a tumour which grew beneath the conjunctiva of the eye, and protruded it between the eyelids. The tumour was seven inches long and three inches and a half in circumference, and weighed two pounds and a half. The structure, which is represented in a plate, answers correctly to that which I have denominated pancreatic, and it had also the ordinary characters of this diseased structure, which are those of slowly and regularly increasing, not prone to inflammation nor tending to suppuration. The tumour, as might be naturally supposed, was closely connected with the tunica conjunctiva against which it pressed, but the base of it was easily elevated from the cornea which still retained

retained its natural transparency, and the patient regained his sight on its removal.

Cystic Sarcoma.

The next species of sarcomatous tumour, as it contains cells or cysts, may be named Cystic Sarcoma; and this species will be found to comprehend varieties. This species sometimes occurs as a distinct tumour, but is more frequently met with in the testis and ovary. In one kind of disease of the testis, the part is perhaps enlarged to six times its natural size, and consists of a congeries of cells, containing a serous fluid; their size is that of currants or grapes, but of an oval figure. The sides of the cysts are so vascular as to be made red by injection; and sometimes the injection is even effused and tinges the contents of the cyst. Dr. Baillie has favoured us with an elegant and correct representation of this disease, in his Series of Engravings intended to illustrate the Morbid Anatomy of some of the most important Parts of the Human Body *. I

* *Vide* Fasc. 8. Plate 8. Fig. 2.

have known this alteration of structure the consequence of a blow received on the part; but, in general, it occurs without evident injury. The firm or sarcomatous part of an ovary, affords a good specimen of the structure I am describing; the cells are here much larger, and are so vascular as to be made quite red by injection.

To shew that this structure is not peculiar to these parts, I may mention the following case: a tumour was taken from the face of a boy by Sir Charles Blicke, which, when divided, was found to consist entirely of an assemblage of cells filled with a watery yet coagulable fluid.

In the testis, cysts are not unfrequently found containing a kind of caseous substance. In this case too, the sides of the cyst are vascular. The cysts are generally large, and sometimes there is but one. I have called the substance caseous, because it resembles cheese in consistence, and in colour; being of a yellowish cast, and of an unctuous appearance

pearance, but it is not at all unctuous to the touch. It may be proper to mention, that this caseous substance is sometimes irregularly distributed throughout the vascular substance of a diseased testis, without being confined in distinct cysts. I believe this kind of sarcocoele is particularly unyielding to medical treatment.

Mastoid, or Mammary Sarcoma.

There is a species of sarcomatous tumour, which indeed I have not frequently met with, but which so strikingly resembles the mammary gland in colour and texture, that, wishing to distinguish it on account of the following case, I have named it Mammary Sarcoma.

I have seen this substance (which is white and firm, and has a similarity of appearance throughout) in the midst of adipose tumours; but my attention was not particularly excited to it till the following case occurred.

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A moderately healthy middle-aged woman came from the country to St. Bartholomew's Hospital, on account of a tumour of the size of a very large orange, which had grown gradually on the front of her thigh: it lay beneath the integuments and above the fascia. It was removed by an operation, and the integuments covering the tumour were also taken away, as in the removal of the cancerous breast. The sides of the wound were brought together by sticking-plaster, and, at first, seemed disposed to heal; but afterwards a considerable induration of the surrounding parts took place, and the wound degenerated into a malignant ulcer, which spread extensively, and was incorrigible by any medical means employed. As the ulcer spread, so, in the same proportion, did the hardness of the parts which surrounded it. The pain and fever so exhausted the patient, that in about two months she died.

This tumour, the appearance of which was exactly of the kind that has been described, seemed to have no distinct capsule, but to be gradually

gradually lost in the surrounding parts. The whole of the diseased part seemed to have been removed, yet it is probable that the contiguous parts had a disposition to disease, which was aggravated, and rendered more virulent, by the injury of the operation. Could the circumstances have been foreseen, it might have been right to have removed the parts surrounding this tumour more extensively, as suggested in one of the preliminary observations.

There is a similar kind of diseased structure, but of a softer texture, which is frequently found as a distinct tumour, or in glandular parts; which perhaps might, with propriety, be considered as a variety of the same species of sarcoma. It has the same uniformity of surface, but it is not always of a white colour, being occasionally of a brownish or reddish tint. I have seen a substance of this kind forming a tumour surrounding and compressing the œsophagus, and causing a contraction of that tube. I have seen this kind of sarcoma in glandular parts, in which the progress

gress and event of the case did not indicate the disease to be of a noxious nature. The general result of my observations, however, has induced me to believe, that this diseased structure may degenerate into an intractable ulcer, which will communicate its disease to the surrounding parts, and I have therefore placed this species of sarcoma between those which seem to possess no malignity and those which follow, and which are of a very destructive nature.

Tuberculated Sarcoma.

The next species of sarcoma which I have to describe may be named Tuberculated Sarcoma. It consists of an aggregation of small, firm, roundish tumours, of different sizes and colours, connected together by a kind of cellular substance. The size of the tubercles is from that of a pea to that of a horse-bean, or sometimes larger; the colour of a brownish red, and some are of a yellowish tint. In Dr. Baillie's Plates there is one of the tuberculated liver*, which expresses the appearance

* *Vide* Fasc. 5. Plate 2.

of this kind of sarcoma as well as can possibly be done by an engraving.

The instances which I have seen have been chiefly in the lymphatic glands of the neck. The tumours have ulcerated; have become painful and intractable sores; and have destroyed the patient. The disease appears to possess a very malignant nature.

A remarkable case of this kind occurred in St. Bartholomew's Hospital in 1797. A man between forty and fifty years of age, had a large tumour at the side of his neck, beneath the platysma myoides. It measured about eight inches in length, and four in breadth. It was hard and irregular on the surface, seeming like a cluster of diseased lymphatic glands. It was extremely painful, and had greatly impaired his health. He affirmed that it had not been more than six months since its first appearance, and in the course of this time, numerous small tumours of similar density and structure had grown beneath the skin all over the trunk of the body,
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but chiefly on the neck and abdomen. The skin and the front of the tumour in the neck had ulcerated, and become a painful phagedænic sore; and the patient died with hectic fever, in about six weeks after his admission into the Hospital. The structure of all the tumours was alike, and such as has been described: the body was examined by the students of the Hospital, who said that there were no tubercles on the viscera, as there commonly are in cases of this disease.—As this disease is uncommon, it may not be improper to relate another case on which I was consulted in the course of the last year.

A gentleman had a tumour in the lymphatic glands of the axilla, which he had taken notice of about a month, and which was supposed to be of a scrofulous nature. I was consulted as to the propriety of his going to the sea-side. The tumour was of the size of an egg, and its surface was irregular from the projection of numerous tubercles. This circumstance struck me, and led me to inquire if he had no other little

tumours in the skin. He told me there was one in the groin, which appeared on examination to be a distinct tubercle; and, on further inquiry, I found that the glands above the collar-bone, by the side of the neck, were in some degree affected. I had no doubt of the nature of the disease, and told the physician, that, in my opinion, it would terminate fatally. After about a fortnight, when I saw the patient again, these tubercles had multiplied all over the skin, both in the front and back part of the body; they were hard and painful, and gave him the sensation as if he was lying on a number of hobnails. The disease in the glands, both below and above the collar-bone, had greatly increased, and the arm was very œdematous. The disease progressively increased; the skin seemed to peel off in thin sloughs from the surface of the enlarged glands in the axilla; but no sloughing or ulceration had taken place in the tumour when the patient died, which was about five weeks after I first saw him. On examining the body, the tubercles every where had the appearance which has been described; and
many

many fimilar tubercles were found on the furface of the lungs, heart, liver, fpleen, omentum, and mefentery. The abforbent glands of the mefentery, and the other internal abforbent glands were, however, unaffected by this difeafe.

Medullary Sarcoma.

The farcoma which is next to be defcribed is generally found in the teftis, and is diftinguifhed by the name of the foft cancer of that part. The term cancer is objectionable, becaufe it conveys an erroneous idea of its nature; for this difeafe, though perhaps equally deftructive, will be fhewn to be unlike cancer in its nature and progrefs.

The tumour, in thofe cafes of the difeafe which I have moft frequently met with, has been of a whitifh colour, refembling, on a general and diftant infpection, the appearance of the brain. The difeafe is ufually of a pulpy confiftence; and I have, therefore, been induced to diftinguifh it by the name of medullary farcoma. Although I have

more frequently met with this disease of a whitish colour, yet I have often seen it of a brownish red appearance. Which is most common I cannot decide: the structure and feel of both are the same, and their progress is also similar; they are therefore to be considered as varieties of one species. The shortest way in which I can communicate a knowledge of this disease, and render those remarks, which I have to make on it intelligible, will be, by relating a case in which it proceeded to a very considerable extent before it destroyed the patient.

C A S E.

A tall thin healthy-looking man, of about forty years of age, had, about fifteen years before, a swelled testicle from a gonorrhœa; the epididymis remained indurated. Six years afterwards it became enlarged, and a hydrocele at the same time formed. Half a pint of water was discharged by a puncture, but inflammation succeeded the operation, and this testis became very large. An abscess formed,

formed, and burst in the front of the scrotum, and the testis subsided in some degree. Mercury was employed to reduce it, but without effect. The part however was indolent, and gave the patient no trouble but from its bulk.

About a year afterwards a gland enlarged in the left groin (the same side as the testis): another then became swollen in the right groin, and, in the course of two years, several glands in each groin had obtained a very considerable magnitude. At this period he was admitted into St. Bartholomew's Hospital, under the care of Mr. Long. The testis was, at this time, between four or five inches in length, and about three in breadth; it resembled its natural form, and was indolent in its disposition. The spermatic chord was thickened, but not much indurated. Four or five glands were enlarged in the groin on both sides; each of which was of the size of a very large orange; and, when observed together, they formed a tumour of very uncommon shape and magnitude.

They gradually increased in size for several months, till at last the skin appeared as if unable to contain them any longer. It became thin, inflamed, and ulcerated; first in the left groin, and exposed one of the most prominent tumours. The exposed tumour inflamed and sloughed progressively, till it entirely came away. As the sloughing exposed its vessels, which were large, they bled profusely, insomuch that the students endeavoured, but in vain, to secure them by ligatures: for the substance of the tumour was cut through, and torn away in the attempt. Pressure by the finger, continued for some time, was the only effectual mode of restraining this hæmorrhage.

The loss of one gland relieved the distended skin, which had only ulcerated on the most prominent part of the tumour, and had not become diseased. It now lost its inflamed aspect: granulations formed, and a cicatrix took place. In the opposite groin a similar occurrence happened. One gland, exposed by the ulceration of the skin, sloughed out,

being attended by the circumstances just recited. However before the skin was cicatrized, ulceration had again taken place in the right groin, in consequence of the great distension of the skin from the growth of the tumour; and sloughing had begun in the tumour, when the patient, whose vital powers had long been greatly exhausted, died.

The testis was injected, and, when divided, was found to be of a whitish colour, and moderately firm consistence, and was made red by the injection in various parts. The tumour formed by the inguinal glands on each side was as large as a man's head, and the structure was very similar to that of the testis but more pulpy. On opening the body the pelvis was almost filled with similarly diseased glands, and the vertebræ were hidden by others as high up as the diaphragm. The disease in the upper ones was not however so far advanced as in the others: some of the former, which lay close to the diaphragm, and were not larger than a walnut, being cut into, a thick fluid, resembling

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cream

cream in colour and consistence, escaped, and was expressed, and the gland was left a texture of loose fibrous substance.

The state of the glands newly affected shews, that the actions of this disease cause a secretion of fluid-like cream ; that this fluid acquires consistence during its residence in the part ; and that it is the cause of the increase of size in the gland. The profuse hæmorrhage, which took place during the sloughing, shews that there is an increase of vessels proportionate to the augmentation in bulk of the diseased part *. The simple ulceration

* Whether there are in this disease any new vessels formed may fairly be doubted ; the deposited substance acquires solidity by residence, but it is not of that nature which seems to admit of becoming organized. Indeed it may reasonably be questioned, whether vessels will, in any instance, grow into any deposited substance, except the gelatinous part of the blood, as that seems to be the common and natural matrix for them. Yet some tubercles in the liver can be injected ; where the disease appears to be formed of a secretion made from cysts, and of a different nature from the gelatinous parts of the blood : yet vessels have apparently grown into the deposited matter. I am also much mistaken if I have not seen tubercles in the lungs suppurate, though they

were

ation of the skin from distension, and the subsequent healing of the ulcer shew, that
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were of a kind which anatomists in general consider as inorganic, because they have not been able to inject them. Does not this change from a solid substance into pus imply that they are vascular, since they go through the same changes that vascular parts do? It may be said that the change is brought about by the surrounding vessels, or by those of their cysts; but, in the instances alluded to, this supposition appeared to me improbable. The subject seems curious, and I mention it merely to excite attention. I wish also here to state some facts which, though not important, may yet be useful; and which have left this impression upon my mind, that we do wrong to deny the life or vascularity of parts merely because we cannot demonstrate their vessels by anatomical artifices. The arguments cited by Mr. Hunter against the vascularity of the teeth are remarkably strong, and yet that accurate observer could not convince his mind, that the decay of the teeth was merely a chemical process, which it should be, if they were inorganic. It appeared to me, that there was so much animal substance in the bone of the tooth as to render it improbable that it would remain in the temperature, in which it exists throughout life, without undergoing some chemical change; and indeed the progress of the decay of a tooth seemed to me more like an animal than a chemical process. In discussing this subject in a medical society I was led to ask, whether the decayed part of a tooth did not sometimes become painful before the cavity containing the vessels and nerves of the tooth became exposed; for, in that case, the bone itself must possess sensation.

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this morbid affection is unlike carcinoma, which communicates its disease to all contiguous

As far as my opportunities of observation enable me to reply to this inquiry I should answer it in the affirmative; and it is also known, that the whole crown of the tooth may be destroyed to the level of the gum, and yet the patient may occasionally escape the tooth-ache. Supposing then that the decay of the tooth was owing to a process resembling ulceration, without any attempt at reparation, such as we occasionally see even in soft parts, I was led to inquire further, whether the surface might not be sometimes irritable and sometimes indolent; whether the disease might not sometimes proceed rapidly, and at another be nearly stationary. If this supposition above mentioned had any truth in it, I thought we might put it to this test, in order to ascertain the probability or falsity of the conjecture. We might destroy the irritable surface of the decaying part as we do that of an ulcer with caustic, and thus diminish or remove the pain. This I have done in a great number of instances with success; and the mode which I have adopted is to moisten the black decayed surface with muriatic acid one half or one third diluted with water. This application gives no pain, except sometimes when it gets into the cavity of the tooth, but it chemically decomposes the diseased surface. I usually repeat the application three times, allowing a short interval between each. The surface which has been thus destroyed is no longer sore; it may be touched with a probe, and even cold water may be applied to it without causing pain. As far as my observation enables me to form an opinion on this subject, the most common kind of tooth-ache takes place in
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guous parts: neither has it the hardness, nor the disposition to ulcerate, which characterize

the following manner: The black surface of the tooth becomes sore and painful when touched, particularly by any thing cold; and, after some time, these symptoms are aggravated, and the whole tooth seems tender in every part, from inflammation apparently excited by the irritation of the diseased part. The destruction of the irritable decayed surface does not, of course, immediately remove the general inflammation, but all springing pain, as many patients have called it, ceases, and the general inflammation gradually subsides.

In the few cases where this mode of treatment did not succeed the failure seemed to arise either from the impracticability of touching the whole of the decayed surface, and from the decay extending into the cavity of the tooth; in which case the acid, by touching the nerves, gives great pain, and may perhaps rather augment than diminish the inflammation. Perhaps also this plan of treatment may sometimes fail from the pain arising from inflammation, beginning in the cavity of the tooth, in the first instance, and not arising, as has been suggested, from an irritable and painful state of the decayed surface. I have also destroyed one half of the decayed surface with the acid, and proportionately diminished the patient's sufferings, and then applied the remedy to the other half. I have also observed, that some patients have complained of most pain when the probe was applied to that part of the tooth nearest the surface; to that which lay, as it were in a degree concealed, under the projecting

ize cancer. The general disease of the absorbing glands shews, that the diseased action is readily propagated in the course of those susceptible vessels; and the glands of the pelvis being affected equally with those higher up, renders it probable that it induces the disease, as well by imparting irritation to them, as by furnishing a matter capable of stimulating them when they have imbibed it; an opinion that will be more strikingly verified by the next case which I shall relate.

This species of sarcoma, though it usually affects the testis, occasionally occurs in other parts. I shall authenticate this fact by the brief relation of another case, which will

projecting shell of the broken enamel. If the above statement be found, on further examination, to be fact, I think it must be granted, that the bone of the tooth has nerves, and consequently vessels. I am also much mistaken if I have not seen the bone of the tooth tinged with bile like the other bones in persons deeply jaundiced. This circumstance was pointed out to me by Mr. Sutton, of Greenwich, who was at the time he made the observation a very industrious student, and House-Surgeon at St. Bartholomew's Hospital.

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serve also to throw additional light on the nature and progress of this disease.

A boy about twelve years of age was brought to the Hospital for advice, on account of a tumour in the front of his thigh : it had been growing three or four months, and had then attained the size of a large orange. The base of it was situated close upon the bone. It increased, notwithstanding applications that were employed to disperse it, and the patient became confined to his bed. After some time the leg became œdematous to a very great degree ; the inguinal glands were enlarged, but not in a degree proportionate to the œdema, none of them having attained to more than the size of a small walnut. The parts in the ham were also considerably swollen. In a short time the cause of the great degree of œdema was manifested ; for the lower part of the abdomen became distended by a tumour, that seemed to rise out of the pelvis and compress the iliac vessels. The boy's health, as may
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be supposed, gradually declined, and, when the disease had attained to this state, he died.

On examining the parts it was found, that the tumour, though it lay close to the periosteum of the thigh bone, had no connection with it ; that it was in structure like the disease last described ; and that the disease had extended, through the medium, and in the course of the absorbing vessels, downwards to the ham, where the glands were enlarged and formed a considerable tumour ; and upwards into the pelvis, where the internal iliac glands more than filled one side of that cavity, rising out of it, as has been said, so as to distend the lower part of the abdomen. The disease had also extended so as slightly to affect the lumbar glands. The tumours in the ham and pelvis were of the same structure as the original tumour. The inguinal glands, though affected apparently from the same disease, were not considerably enlarged.

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This case also shews the uncommon facility with which this disease is propagated along the absorbing vessels; and its having extended downwards to the ham, as well as upwards into the pelvis, confirms the opinion, that it extends itself by imparting irritation to the vessels, as well as, perhaps, by furnishing a matter which, if imbibed, may communicate the same irritation.

I have mentioned, as a variety of this disease, that in which the colour is different, being between a brown and that of the blood, but in texture and organization it does not appear dissimilar. It seems therefore as if the diseased action caused the secretion of a fluid, sometimes of a milky, sometimes of a more dusky hue; which gradually acquires solidity and augments the bulk of the part. The diseased part acquires in general a considerable solidity when it has continued for some time, so as scarcely to deserve the names of soft cancer, or medullary sarcoma. The hardness is also, in some instances which I have seen, increased, apparently by a thickening of
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of the cellular substance which pervades the gland.

It seems probable, however, that the same kind of diseased action may not be always followed by the like alteration of structure, in the part which it affects. Mr. Astley Cooper, in his Paper on Obstructions of the Thoracic Duct, mentions an instance in which matter, imbibed from a testis affected with a disease like the present, obstructed that vessel. His description of the testis is, that it was "a pulpy mass, composed of broken coagulable lymph, and blood-coloured serum *."

I remember one instance of the inguinal and lumbar glands being affected with a disease similar to those just described, from a diseased testis of a different structure. The testis was removed in the Hospital, and was found much enlarged, and vascular throughout, except where some soft cheese-like matter

• *Vide* Medical Records and Researches, p. 96.

was deposited. Some of the inguinal glands enlarged, ulcerated, and sloughed out, and the wound seemed disposed to heal. The lumbar glands were affected, became extremely painful, and the patient being previously much exhausted, sunk under this last complaint.

He had been removed to some distance from the Hospital, and I could not obtain permission to examine the body till four days after his decease. I took out the lumbar glands and put them in water; and, the weather being extremely hot, when I examined them the next day, I found that all the unorganized deposited matter which had enlarged them, had become putrid, and was washed away, leaving the capsule of the gland, and a congeries of flocculent fibres occupying the interior part of it: these were doubtless the vessels and connecting cellular substance of the glands not indurated (as I have seen it in some other instances) by inflammation.

In the advanced stage of this disease sometimes, lymphatic glands out of the course of
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absorption,

absorption, and of the participation of irritation, become affected with the same disease; and a secretion of this thick cream or bloody-coloured fluid takes place on the surface, or in portions, even in the liver or lungs, or other viscera. I have heard this circumstance accounted for, by supposing that the absorption of the matter deposited in the originally diseased parts was so abundant as to induce the necessity of depositing it in various places; but it seems to me more natural to attribute it to the more general prevalence of the same diseased disposition throughout the body. For we frequently find, that solid tumours of similar structure exist in various parts of the same subject; and sometimes they rapidly multiply as the disease advances; as was mentioned in the case which is related of tuberculated sarcoma.

Carcinomatous Sarcoma.

The last species of sarcomatous tumour which I have to describe, is the Carcinomatous. It is not here designed to give a full or distinct history of Carcinoma, but only a general and

comparative account of those circumstances in which it resembles or differs from other tumours. This kind of tumour, on account of its peculiar hardness, is emphatically termed Scirrhus, while it remains entire and free from ulceration. But the word scirrhus is frequently applied to other indurations, and it seems better, in order to avoid ambiguity, to use the same term to denote all the stages of this disease, naming it carcinoma, in the first place, and ulcerated carcinoma when that change has occurred. This disease is not, in every instance, so peculiarly hard as to entitle it to the epithet scirrhus; and however indurated it may be, it still must be accounted a kind of fleshy tumour; therefore I may be allowed to call it carcinomatous sarcoma.

I shall arrange the observations which I have to offer under three heads: 1st, The history of carcinoma. 2dly, Its anatomical structure; and, 3dly, I shall compare this disease with others which resemble it. I shall suppose the carcinoma to arise in the female

breast, as there it most frequently occurs, and can be best investigated.

It sometimes condenses the surrounding substance so as to acquire a capsule; and then it appears, like other sarcomatous tumours, to be a part of new formation: in other cases the mammary gland seems to be the nidus for this diseased action. The boundaries of the disease cannot be accurately ascertained in the latter case, as the carcinomatous structure, having no distinguishable investment, is confused with the rest of the gland. In either instance carcinoma begins in a small spot and extends from thence in all directions, like rays from a centre. This observation will serve to distinguish it from many other diseases which, at their first attack, involve a considerable portion, if not the whole of the part, where they occur. The progress of carcinoma is more or less quick in different instances. When slow, it is in general unremitting; at least I am inclined to think that the disease, though it may be checked, cannot be made to recede by that medical treatment

ment which lessens the bulk of other sarcomatous tumours. I state this opinion however with some hesitation, for I have been informed by surgeons, that diseases, the event of which proved them to be carcinomatous, have suffered a considerable reduction in size by that kind of local treatment mentioned in the preliminary observations. This circumstance affords, in my opinion, another criterion, by which it may in general be distinguished. This obdurate and destructive disease excites the contiguous parts, whatever their nature may be, to the same diseased action. The skin, the cellular substance of muscles, and the periosteum of bones all become affected, if they are in the vicinity of cancer. This very striking circumstance in the history of carcinoma distinguishes it from most of the diseases already described. In medullary sarcoma the disease is propagated along the absorbing system, but the parts immediately in contact with the enlarged glands do not assume the same diseased actions. Neither in the tuberculated species does the ulceration spread along the skin, but destroys that part only where it covers the diseased glands.

It was observed by Mr. Hunter that a disposition to cancer exists in the surrounding parts, prior to the actual occurrence of the diseased action. This remark, which is verified by daily experience, led to the following rule in practice: "That a surgeon ought not to be contented with removing merely the indurated or actually diseased part, but that he should also take away some portion of the surrounding substance, in which a diseased disposition may probably have been excited." In consequence of this communication of disease to the contiguous parts, the skin soon becomes indurated, and attached to a carcinomatous tumour, which, in like manner, is fixed to the muscles, or other part over which it was formed.

As a carcinomatous tumour increases, it generally, though not constantly, becomes unequal upon its surface, so that this inequality has been considered as characteristic of the disease, and it is a circumstance which deserves much attention. A lancinating pain in the part frequently accompanies its growth; but in some cases this pain is wanting. It attends

attends also on other tumours, the structure of which is unlike carcinoma; of which I have given an instance in speaking of pancreatic sarcoma. This pain cannot therefore be considered as an infallible criterion of the nature of the disease.

The diseased skin covering a carcinomatous tumour generally ulcerates, before the tumour has attained any great magnitude; a large chasm is then produced in its substance by a partly sloughing, and partly ulcerating process. Sometimes, when cells contained in the tumour are by this means laid open, their contents (which are a pulpy matter of different degrees of consistence, and various colours) fall out, and an excoriating ichor distils from their sides. This discharge takes place with a celerity, which would almost induce a person ignorant of the facility with which secretion is performed, to believe that it cannot be produced by that process.

When the diseased actions have, as it were, exhausted themselves by their vehemence,

an attempt at reparation appears to take place, similar to that which occurs in healthy parts. New flesh is formed, constituting a fungus of peculiar hardness, as it partakes of the diseased actions by which it was produced. This diseased fungus occasionally even cicatrizes. But though the actions of the disease are thus mitigated, though they may be for some time indolent and stationary, they never cease, nor does the part ever become healthy.

In the mean while, the disease extends through the medium of the absorbing vessels. Their glands become affected at a considerable distance from the original tumour. The progress of carcinoma in an absorbent gland is the same as ^{that} which has been already described. The disease is communicated from one gland to another, so that after all the axillary glands are affected, those that lie under the collar-bone at the lower part of the neck, and upper part of the chest become disordered. Occasionally a gland or two become diseased higher up in the neck, and apparently out of the course, which the absorbed fluids would take.

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The absorbent glands, in the course of the internal mammary vessels become affected as the disease continues. In the advanced stage of carcinoma a number of small tumours, of similar structure to the original disease, form at some distance, so as to make a kind of irregular circle round it.

Here it is no wonder that I conclude the accounts of the dreadful effects of this pernicious disease. For when it has done so much mischief, the strongest constitutions sink under the pain and irritation which the disease creates, aggravated by the obstruction, which it occasions to the function of absorption in those parts, to which the vessels leading to the diseased glands belong. Towards the conclusion of the disease the patient is generally affected with difficulty of breathing and a cough. In cases where the external disease has been removed, the same symptoms of disordered respiration take place, and the patients die of the internal disorder, which is not apparent till the body is inspected.

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It has been a subject of debate and consideration, whether the disease of the absorbent glands, which takes place in carcinoma, be the effect of the stimulus of matter imbibed by those vessels from the original disease, or of irritation propagated along them. The reason for supposing that no poison is imbibed is, that if it were conveyed into the blood, it would produce general disease in the constitution; but no more fever or general disorder is found to exist in carcinoma than what would naturally be produced by the irritation which the affected parts occasion. It does not seem essential to my present design to discuss this subject at length: it is however right to observe, that we scarcely ever see glands diseased out of the course which the absorbed matter would naturally take, though they are affected in this manner in diseases which can be propagated simply by irritation. When the glands of the axilla are obstructed by disease, the absorbed matter will pass by anastomosing channels, into the internal mammary absorbents, and if occasionally one or two gland
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in the neck are found diseased, they may become affected in the same manner, by the fluids being obliged to take a circuitous route. It may be proper to enquire, whether those tumours, which arise in the circumference of carcinoma, are not caused by the absorbed matter being made to stop for a time in the vessels, and thus to afford that irritation which induces disease in them and the contiguous parts?

The difficulty of breathing and cough which generally occur in the last stages of carcinoma, have been said to arise from the disease in the glands on the inside of the thorax. I have never seen them so greatly diseased, as to appear adequate to this effect. I once thought they might contribute to it by pressing on the nerves, where they enter the thorax: of late I have scarcely doubted but that the disturbed state of respiration has arisen from an affection of the liver, which almost constantly occurs in the last stages of carcinoma.

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There is another circumstance in the history of cancer which deserves attention and investigation ; that is, Whether a disease not originally cancerous can become so in its progress? We can only form our opinions on this subject from analogy and observation. Analogy leads us to believe, that such an alteration in the diseased actions may readily take place. Venereal buboes often change their nature after the administration of mercury, and become troublesome sores, to which that medicine is rather detrimental than beneficial. Injuries induce inflammation and enlargement of parts, which afterwards degenerate into scrofulous diseases. But, though analogy seems so strongly to favour the opinion, I cannot take upon myself to say, that my observations have confirmed it. When tumours have been removed, the history of which corresponded to that of cancer, a cancerous structure was observed in them ; and, on the contrary, in diseases of an apparently different nature, a different organization has been found. I once, indeed, assisted at an operation where the tumour was of that kind which I have
denominated

denominated pancreatic ; and I heard afterwards, that the patient died in the country of a disease which was reputed cancerous. Again, in investigating this subject it deserves to be remarked, and every surgeon must, I believe, be familiarly acquainted with this fact, that many diseased tumours remain in the breast for a great length of time, perhaps during life, without undergoing any change in their nature ; or, in other words, without becoming cancerous.

It is difficult to convey correct ideas of the structure of carcinoma by words, or even by drawings. In the generality of instances the diseased part is peculiarly hard, and there are intermixed with it firm whitish bands, such as Dr. Baillie has described and represented in his Book and Plates of Morbid Anatomy. There is indeed no other striking circumstance, which can be mentioned as constantly claiming attention in the structure of this disease. These firm whitish bands sometimes extend in all directions from the middle towards the circumference of a carcinomatous tumour, like rays from a center, having little
intervening

intervening matter. Sometimes they intersect it irregularly ; having interposed between them a firm brownish substance, which may be scraped out with the finger. Sometimes they form cells containing a pulpy matter of various colours and consistence ; and sometimes these bands assume an arborescent arrangement, ramifying through the diseased substance.

Firm white bands, like thickened and compact cellular substance, are seen as the disease advances, to extend themselves from the original tumour amidst the fat in which it is occasionally imbedded, intercepting portions of fat in the irregular areolæ which they form. This appearance led Dr. Adams to conjecture, that the fat might be originally diseased, and that these white bands might be a thickening of the cellular substance, which ensued as a natural consequence. This circumstance deserves consideration on account of its practical application ; for if, after removing a carcinomatous tumour, the surgeon attends to the part which has been taken away, he will see if any of these bands have
been

been cut through, and, consequently, whether some of this diseased substance, which ought to be removed, has not been accidentally left. This circumstance cannot be observed by looking at the bleeding surface of the wound, but may be readily ascertained by examining the part which has been removed.

These are the chief circumstances, which I think sufficiently characterize carcinoma, and distinguish it from other sarcomatous tumours. The account of them is brief, and much has been omitted, because it was not designed particularly to discuss the subject of carcinoma, but merely to point out its distinguishing characters. I now proceed to speak of diseases resembling cancer; though, in so doing, I shall digress a little from the principal subject of this paper, that is, to describe the distinguishable kinds of sarcomatous tumours, and give their history.

According to the preceding account, carcinoma begins in a small scirrhus, which
gradually

gradually enlarges and afterwards ulcerates. It does so in the breast, lip, tongue, and cervix uteri; yet it may be enquired if it does so in every instance. Parts sometimes superficially ulcerate at first, and afterwards acquire surrounding hardness, and strikingly resemble carcinoma, if they do not strictly deserve that name. This is the way in which some diseases proceed, which occur near the side of the nose or eye, and which gradually destroy the parts in which they are situated, and cannot be cured by any mode of local or general treatment. The intelligent reader will not suspect me of confounding these more malignant diseases with the herpes exedens nasi, in which the morbid actions gradually cease, and the first affected parts get well whilst the surrounding parts become diseased.

Here some additional discriminating circumstances seem to be wanted, by which we may distinguish between these ulcers and common carcinoma. I have never remarked, that such ulcers have affected the absorbent glands, though I do not feel assured that this
occurrence

occurrence never takes place. It therefore remains to be determined by future cases, how far this circumstance may enable us to decide on the nature of these diseases. I shall next relate the principal circumstances of a remarkable case of this kind of disease, which will serve to elucidate the subject, and also to exhibit a specimen of the diseases to which I allude.

C A S E.

A man was admitted into St. Bartholomew's Hospital with a tumour beneath the jaw, having a great degree of surrounding hardness, and containing three cells, like those of carcinomatous tumours. The history which he gave of the disease was very curious: he said that a redness took place superficially in the skin, which gathered and burst, and discharged good matter; that the opening enlarged, and the surrounding parts indurated, and thus produced an appearance like a cell in a carcinomatous tumour; then,

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another portion of skin became diseased in the same manner, and with the same consequences, till, by degrees, the general tumour had acquired its present magnitude. To the truth of this account we had an opportunity of bearing testimony; for this occurrence took place twice in succession during his residence in the Hospital; and thus two more cells were added to the general mass. The inflammation of the skin, and the suppuration, which was healthy in appearance, took place beneath the tumour, and made it reach almost as low as the sternum. As the patient's health had considerably declined by the irritation of the constitution which this disease kept up, and as no amendment of the disease had taken place in consequence of the applications or medicines which were employed, he left the Hospital, and went into the country.

Diseases also, which strikingly resemble carcinoma in appearance, form in the following manner. An enlarged lymphatic gland shall gradually become soft, and contain
a fluid.

a fluid. In this state it ulcerates or is opened ; but instead of subsiding, it inflames ; the surrounding parts become indurated ; the integuments acquire a dusky hue ; the opening and cavity enlarge, and assume the appearance of a cyst, from the sides of which fungus arises, and turns over the everted edges of the opening. I have also seen, after the bursting of an encysted tumour the surrounding parts indurate, and throw out a fungus, forming a disease appearing like cancer, and which could not be cured.

Are such diseases as I have here described to be accounted carcinomatous ? if not, What are the characters which discriminate between them and carcinoma ? As I have no precise or satisfactory information to communicate, I forbear to say any thing on the subject.

There are tumours, the structure of which may not correspond with any of the descriptions that I have given. I feel, however, unable, from my own observations, to depict any other species. It seems to me, that these

diseases resemble colours in this respect, that a few of the primary ones only can be discriminated and expressed, whilst the intermediate shades, though distinguishable by close attention and comparative observation, do not admit of description or denomination. There are single tumours, in the composition of which several of the above-described structures may be found, and, perhaps, some part of which may not correspond to any description that has been given. If, however, the history of these dissimilar diseases, which appear in the form of tumours, was accurately recorded, and their structure noted, we might perhaps from the former be led to judge of the latter ; and thus attain a knowledge of the intrinsic nature of the disease which would enable us to act rightly in practice.

Encysted Tumours.

In the class of local diseases, and in the order of tumours, custom seems to have placed the genus of Encysted Tumours, next
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to those of the sarcomatous kind. The arrangement indeed appears proper; for they are so allied in appearance, and in the sensation which they impart on examination, that they are not unfrequently mistaken for each other; and yet, in general, the encysted tumours have sufficiently distinguishing characters, to enable a surgeon to determine their nature prior to the performance of an operation. The discriminating characters are,—a regularity of surface and shape, and a pulpi-ness to the touch. Yet most surgeons will, I believe, acknowledge, that they have seen tumours dispersed, which they have taken for wens; and have even, when they have removed them under that belief, discovered the disease to have been a soft regularly shaped sarcoma, and not a cyst containing a pulpy substance.

Respecting the structure of encysted tumours I have nothing to remark, but what is, I believe, generally known. The cysts most frequently are composed of many lamellæ, which are sometimes so compacted, as

to be scarcely distinguishable. These cysts vary considerably in thickness ; being sometimes very thick and tough, and at others extremely thin and tender. They sometimes most tenaciously adhere to the contiguous parts, so as to make it difficult to separate them ; and, at others, they are so loosely connected, that, when an incision is made which lays bare the cyst, the whole tumour starts out without any dissection,

That the interior surface secretes the contents formed in the cyst, is in my opinion indisputable. That it is a secreting surface I believe ; because, when a wen has spontaneously opened by ulceration, I have seen the cyst produce granulations from its surface. When also, the front of the bag has alone been taken away, and the skin closed over the back of it, an union takes place between the skin and cyst. When also a wen has burst, or has been punctured, so that a small aperture has been left in it, I have seen the cyst fill repeatedly by a secretion of the same nature, but more fluid than the contents which were
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at first found in it, and which has occasionally been expressed from the aperture.

Some notions have of late been entertained, that these cysts may be of the nature of hydatids; it may not, therefore, be improper, in order to enable the reader to form his own judgment on this subject, to mention the following case.

A gentleman had a wen in his cheek, which spontaneously burst, and on which Mr. Hunter tried various stimulating means to induce the cyst to granulate or adhere, so that no further collection might ensue. His endeavours, however, were unavailing; for, after the opening closed, the cavity of the cyst filled again, and the wen was as complete as before, and had increased in magnitude. It was situated unfavourably for removal, and the patient was averse to an operation. It lay so deeply on the buccinator muscle, as to be as perceptible from the mouth as on the cheek; and there was a great risk of dividing the parotid duct, in an operation undertaken

for the removal of the tumour. The deformity which the wen occasioned, was, however, considerable, and the patient was very desirous of having the tumour lessened, though very averse to having it extirpated. He had for this purpose used salt and water, which made the skin inflame. Having consulted me, I told him that if stimulating applications were to do good, they could only effect it by causing the skin to ulcerate, and the contents of the wen to be discharged, as had formerly happened ; all which might be accomplished in a more direct, and less teasing manner, by just pricking the bag with a lancet, and squeezing out its contents. I thought it also probable, that the small wound would heal, and that the operation might be occasionally repeated. The patient was pleased with the proposal, and it was put in execution. The contents were of the consistence which is termed meliceritous, and had a peculiar odour. No inflammation ensued, and the wound healed ; but, after a little time, it opened again, and gave discharge to a small quantity of watery liquor,
of

of precisely the same odour as the original contents, and the little puncture again closed up. From that time to the present, which is now some years, the wound has occasionally opened, discharging a small quantity of sometimes a more fluid, sometimes a more meliceritous substance; and, after this discharge, the aperture closes up. This circumstance occurs but seldom; perhaps every second or third month. The aperture is so small as not to be discernible; no plaister is worn upon it, and the patient has got rid of a considerable deformity, upon what he thinks very easy and satisfactory terms.

I have heard that wens have been treated in the following manner: they have been pricked in various parts of their surface with a needle, and the contents expressed, so that the necessity for a more serious operation has been prevented.

These circumstances are mentioned to illustrate the functions of the cysts of these tumours; and to shew what may be done in
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some cases, as a palliation of these diseases. It is not, however, meant to recommend such practice; for, on the contrary, it will be shewn afterwards, that it is dangerous to tamper with encysted tumours; and, indeed, I should not have ventured on this palliative mode of treatment, in the case related, had I not known from the effects of the former conduct, which had been pursued, that the cyst and contiguous parts were of an indolent nature, and not disposed to react in consequence of violence done to them.

The contents of encysted tumours have been denominated from their consistence, steatomatous, atheromatous, and meliceritous. To this ancient distinction must be added another: the cyst sometimes secretes a substance like nail or horn; which is protruded when the skin ulcerates, hardens, and is pushed forwards in proportion as the cyst secretes more of this substance, so as to appear like horns; as has been shewn by Mr. Home in the Philosophical Transactions.

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There is yet another curious circumstance to be noticed with relation to cysts ; which is, that they have sometimes hairs growing from their interior surface. This is the case of those cysts which are not unfrequently met with in the ovary *.

But though the cysts of encysted tumours must be considered as possessing the organization of other parts, and as secreting and absorbing surfaces ; yet their vessels are probably very minute, and not endued with a degree of strength adequate to the ordinary reparation of injury. If they produce granulations they are flabby, and not disposed to heal.

It is no uncommon circumstance to meet with wens, that have burst spontaneously, and have thrown out a fungus, which, like a foreign body, prevents the surrounding integuments from healing.

* Some of the tubercles which occur in the viscera seem to be formed by the deposition of various kinds of substances from the surface of a cyst, which appears to be the first formed and most essential part of the disease.

Most parts that are weak, are irritable when excited, and apt to assume diseased actions. This frequently happens in a striking manner in the cysts of these tumours; and as, perhaps, surgeons are not sufficiently apprized of the bad consequences sometimes occurring from the inflammation of wens, and as it is proper to shew the danger of irritating these diseases, I shall relate a few cases to illustrate this fact.

A woman, about forty years of age, was admitted into St. Bartholomew's Hospital, with a frightful fungus growing on the front of the belly, below, and to the right of the navel. She had been a healthy lusty woman, but was greatly deranged in health by the pain and irritation which this had occasioned. She described it as being a wen which had burst, and her account was afterwards verified by dissection. The fungus bled, and she could scarcely bear the softest dressings to be applied to the part. Nothing mitigated her sufferings so much as lint dipt in a solution of opium, and kept moist by very frequently squeezing

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squeezing on it, from a sponge, a sufficient quantity of the solution. Nothing allayed the constitutional irritation but large doses of opium. She died exhausted in the course of a fortnight.

I removed the cyst from off the aponeurosis of the external oblique muscle, where it covers the rectus, leaving the tendinous expansion quite clean and unaffected. The cyst had ulcerated in two small places, so that the fungus which it contained was visible from behind.

A man between forty and fifty years of age, who was in St. Bartholomew's Hospital, had a wen on his back, which ulcerated, discharged an atheromatous substance, and afterwards inflamed, and threw out a fungus. Extensive erysipelatous inflammation took place in the surrounding integuments, and his constitution was greatly deranged by irritation and fever. When he was almost exhausted by these circumstances, and before any local amendment had taken place, another

other wen of the same nature, which he had on his right thigh, ulcerated, and was followed by the same consequences, and, conjointly, they soon destroyed him.

A gentleman, of a stout make, and about forty years of age, had a tumour, supposed to be sarcomatous, which had formed beneath the integuments on the lower edge of the pectoral muscle. It was attended with severe pain occasionally, at which time it rapidly increased in size, and produced a great deal of fever and irritation*, which made him look very sickly, and grow very thin, and caused some persons to deem the disease cancerous.

When the tumour had acquired a magnitude of about four inches in length, and three

* Circumstances like these should, I think, be particularly attended to in the history of tumours; for they may serve, perhaps, to characterize the disease in which they occur. Tumours of an innocent nature commonly increase in an equal ratio, and do not excite irritation in the contiguous parts, or in the constitution. Yet this, as a general rule, has exceptions. Some of which have been stated under the head of pancreatic sarcoma, occurring in or about the mammary gland.

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in breadth and depth, he submitted to its removal; the integuments were divided and turned back, and the tumour dissected off the surface, and, in some degree, from under the edge of the pectoral muscle.

When the tumour was examined, it was found to be composed of a steatomatous substance, contained in a thin capsule. The substance resembled that which I have described as being sometimes found in cells in the testis, or intermixed with the diseased organization of that part. It was firm, and resembled cheese in its yellow colour and unctuous appearance; but it was not unctuous to the touch.

The wound made in the operation soon healed, and the patient's health was restored to as good, or seemingly a better state than before the formation of this disease. He also regained his usual athletic form. But in less than three months after his recovery, two new tumours formed, one above, and the other below the cicatrix of the wound. The patient

patient did not particularly attend to them till they had attained a size equal to that of a large walnut. To dissect out both these tumours, and make so free a removal of parts as to render it probable that no new growth would ensue, seemed to be a very formidable operation ; and, as the nature of the former tumour was known, and it was supposed that these were of the same nature, it was agreed to puncture the upper one, to express the contents, and await the event. This was done by a puncture of half an inch in length, made by an abscess lancet. The contents were exactly like those of the original tumour. Vehement erysipelatous or irritative inflammation took place, and floughing about the diseased part: the inflammation rapidly extended to the opposite side of the thorax, and then down the integuments of the abdomen to the groin. The derangement of the constitution was as violent as the local disease, and in about a week the patient died.

These cases are related to shew the danger of irritating wens, either of an irritable nature,
or

or occurring in irritable habits ; and because I have not met with such cases described in books in a manner adequate to the importance of the subject.

It deserves to be noticed in this brief account of encysted tumours, that the disposition to form wens prevails frequently in many parts of the body at the same time. It is not very uncommon to see many, even twenty or thirty wens alike in their structure and contents in various parts of the same subject. Nay, the disposition seems sometimes to be hereditary, and transmitted from parents to their children.

The subject would appear to me to be incomplete, were I not to notice the formation of cavities, containing different substances, and which can neither be accounted encysted tumours, nor abscesses. The cysts are like the cysts of abscesses ; they are secreting surfaces, not regular in shape, but varying according to the form of the parts, amongst which they are produced. They adhere also, like the

fides of abscesses, to the circumjacent parts, and are not easily separable from them like the cysts of wens. These cysts sometimes contain a kind of serum and hydatids, like the cysts formed in the liver, and other viscera. Sometimes they contain a number of granular substances of a white colour, having a polished surface, and generally an oval figure. They resemble pearl barley, but the granules are generally smaller. I have seen the cysts containing hydatids, in the back and about the hip. I never met with any containing these granular bodies but about the hip, and, in the thecæ of tendons, I have therefore conjectured that those near the hip might have been originally formed in the bursa mucosa of the great gluteal muscle.

The majority of these cases, which I have seen, have ultimately, but very slowly, done well. However some cysts, upon becoming open, produce great and fatal irritation in the contiguous parts. Sometimes cysts, as Mr. Hey has lately remarked, produce that appearance

pearance which he has called fungus hæmatoides. Of this circumstance, as it appertains to the present subject, I shall relate an instance ; but to speak more largely of it would be deviating from the plan of this paper, and would be unnecessary, as the numerous and accurate cases which Mr. Hey has related, shew that this disease may exist without being connected with cysts.

A girl about sixteen years of age, who was in St. Bartholomew's Hospital, had a collection of fluid under the triceps extensor cubiti, near to the olecranon. When I first saw it, it was not larger than a pullet's egg, but it increased, notwithstanding the means which were employed to disperse it ; and, in about twelve months, it presented itself beneath the integuments on the outside of the arm, in the space between the extensor and flexor muscles, a little above the elbow. Upon compressing the projecting integuments, an agitation of fluid was felt beneath the triceps muscle in the inside of the arm, and the collection seemed to extend high up on the back.

part of the os brachii. As the parts containing the fluid seemed more disposed to increase in dimensions, than to give way and discharge their contents, the collection was opened where it pointed, and a quantity of serum was discharged. On introducing the finger, some strata of coagulated blood came away, and this was succeeded by so great an hæmorrhage, that it became necessary to enlarge the wound, in order to search for the bleeding vessels. In proportion as this was done, and more coagulated blood was detached from the sides of the cyst, which had contained both it and the serum, the hæmorrhage increased, and the blood flowed so profusely from so many and such large arteries, that it was impossible to controul its effusion. Amputation seemed unavoidable, and was performed as high up as possible, but not clearly above the cyst, some part of which remained amongst the muscles of the stump.

On examining the amputated limb, a thick and firm stratum of coagulated blood was found adhering to the sides of a cyst, which

extended from a little above the obecranon, where it was large, to nearly the upper part of the os brachii, where it gradually tapered to a small size. The upper part of the cyst was cut off from the rest by the amputating knife, and of course remained upon the stump. At first, the stump appeared to do well, but shortly after the sides of the wound separated, considerable inflammation came on, and a fungus was thrust forth. Great fever and irritation accompanied this local disorder, and the girl died.

The treatment of encysted tumours resembles that of the sarcomatous kind. By abstracting blood and heat from the part it is probable the growth of them will be stopped, and the disease made for a time stationary. They are not likely to be dispersed; and, as the magnitude is increased by delay, and the spontaneous opening of the cyst generally leaves a vexatious and intractable sore, and sometimes is attended with more dangerous consequences, the early removal of the dis-

ease is the best practical conduct that can be pursued.

Another genus of tumours is the osseous. Those which hang pendulous into joints are sometimes bony. Osseous tumours also form, though not frequently, in other parts: of this circumstance I shall relate the following instance. A woman was admitted into St. Bartholomew's Hospital, with a hard tumour in the ham. It was about four inches in length and three in breadth. She had also a tumour on the front of the thigh a little above the patella, of lesser size and hardness. The tumour in the ham, by its pressure on the nerves and vessels, had greatly benumbed the sensibility, and obstructed the circulation of the leg, so that it was very œdematous. As it appeared impossible to remove this tumour, and, as its origin and connections were unknown, amputation was resolved on. On examining the amputated limb, the tumour in the ham could only be divided by a saw; several slices were

were taken out of it by this means, and appeared to consist of coagulable and vascular substance, in the interstices of which a great deal of bony matter was deposited. The remainder of the tumour was macerated and dried, and it appears to be formed of an irregular and compact deposition of the earth of bone. The tumour on the front of the thigh was of the same nature with that in the ham; but containing so little lime, that it could be cut with a knife. The thigh-bone was not at all diseased; which is mentioned, because, when bony matter is deposited in a limb, it generally arises from a disease of the bone. This case, however, shews that the vessels of a tumour may secrete phosphate of lime, and convert it into an osseous substance, without any manifest cause existing to excite such ossific inflammation.

Vascular tumours also may doubtless become converted into a substance resembling cartilage like those found in joints; and their hardness might then exclude them from the genus sarcoma. I have not however met

with such instances, though it is not very uncommon to find a substance resembling cartilage intermixed with the other vascular substance of a sarcocele of the testis.

The diseases which I have been describing may be considered as edifices which are built up by diseased actions, and in which those diseased actions continue to reside. The actions themselves do not admit of examination, though the structures do which they erect. Therefore as Dr. Baillie has observed, it is by an examination of diseased structure that we must be slowly led to a knowledge of diseased actions. It does not follow as a certain consequence, that similar diseased actions will, in every instance, produce precisely the same diseased structure; though it is highly probable that they will do so in general. This observation would diminish our surprize if, in some rare instances, we found cancer existing where a cancerous structure was not strikingly manifest; or if, in others, a structure like that of cancer, was observed where no cancerous actions were apparent. The scirrhus
tumours,

tumours, which form beneath the peritoneal covering or lining of the uterus, have something of the structure of cancer, and yet they are not cancerous. In all cases where tumours are formed we must suppose an increase, and, in some degree, a disordered action of the vessels which form them, but, in many, these actions possess but little diseased peculiarity. As in every case of growth, in the re-production of destroyed parts, the gelatinous substance of the blood is first deposited, and afterwards rendered vascular, therefore I have considered a tumour formed in this manner as one of the most simple kind and possessing the least of diseased peculiarity; but I am aware that I may have included under this general character tumours of essentially different natures. In the adipose sarcoma there must be some peculiarity in the arrangement and actions of vessels which form this tumour; but it must be accounted a natural rather than a morbid peculiarity. The pancreatic sarcoma, I should suppose, differed but little from the first species. It may be considered as a new growth characterized merely

merely by the peculiarity of its appearance, in consequence of its being separated into many distinct parts, which sometimes cohere by a looser kind of texture, and sometimes are separated by a firmer substance. The connecting medium appears like the thickened cellular substance of the part in which the newly organized matter is formed. Indeed I have sometimes pressed out the separated portions of this substance from the connecting medium which environed them. In the mammary sarcoma I suspect some diseased peculiarity to exist, as has been mentioned in speaking of that subject. In the tuberculated sarcoma the predisposition to that disease seems general on the part of the constitution. In the medullary sarcoma the disease seems local, in the first instance, and propagated by means of the absorbing vessels to their glands, and frequently in a course retrograde to that which the absorbed fluids would naturally take; but in the advanced state of the disease the morbid disposition appears to be general. In carcinomatous sarcoma the disease appears to begin
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in a point or small district, and to extend in every direction, as rays do from a center, affecting every surrounding part whatever may be its nature. The diseased actions also, though they may be at times more violent or more tranquil, never cease. This disease is also extended through the medium of the absorbing vessels in the direction which the absorbed matter would naturally take.

ON DISEASES RESEMBLING SYPHILIS.

HAVING thus ventured again to appear before the Public, I shall take the opportunity of exciting its attention to some cases which have occurred to me of diseases resembling Syphilis. Mr. Hunter, in his excellent Treatise on the Venereal Disease, has related several cases supposed to be of that nature, and some of which were certainly not so, as they got well without mercury; but in the greater number the employment of this medicine rendered their nature doubtful. Mr. Hunter also, who was as cautious in drawing conclusions as he was accurate in making observations, expresses himself in many instances so diffidently on the subject, as, in my opinion, not sufficiently to impress the minds of his readers with the certainty, importance, and frequency of such facts. He concludes his observations by intimating “that undescribed diseases, resembling the venereal, are very numerous,

numerous, and that what he has said is rather to be considered as hints for others to prosecute this inquiry further than as a complete account of the subject." As it has occurred to me very frequently to meet with such cases, and as the necessity for discriminating them from venereal diseases appears to me of the highest importance, I shall prosecute the subject by relating some unequivocal cases of diseases strikingly resembling syphilis, and which, however, were not so, provided it be admitted that syphilis does not spontaneously get well without the aid of medicine.

The necessity for discrimination between these diseases will appear upon a slight consideration of the subject. If a surgeon, who does not see that extent of practice which occurs in a metropolis, administers mercury in one of the diseases resembling syphilis, he finds perhaps that the symptoms yield slowly; and even after a considerable and debilitating course of that medicine they may recur. They are then counteracted by a still more severe use of mercury till they perhaps spontaneously

taneously cease, which may not happen till the patient's constitution is so enfeebled, that if it does not fall into other states of disease it very slowly regains the standard of health. Such cases would induce the surgeon to consider the venereal disease as peculiarly difficult of cure, and liable to recur on the remission of even a severe course of mercury. The consequence of this opinion is, that he employs mercury to an unnecessary and injurious degree in his general practice.

I do not mean by these remarks to infer, however, that, in my opinion, the venereal disease is equally susceptible of cure in every instance by mercury; nor am I an advocate for what has been termed an alterative course of this medicine. Cases which frequently occur have convinced me that it requires a very considerable mercurial effect to cure the venereal disease in some instances; and that this effect must be continued for a considerable time in order to insure a cure. Mr. Hunter probably wished the subject of diseases resembling syphilis to be prosecuted, in

hopes that some distinctive characters might be discovered as peculiar to them ; but the following cases shew that these diseases ensue from primary infected sores of very dissimilar appearances, and sometimes arise without any primary sore having been observed. The reader will best understand my motives for relating these cases after he has perused them. The first is the case of a gentleman who was, at the time it happened, which is many years ago, a most attentive and intelligent student at St. Bartholomew's Hospital.

C A S E.

This gentleman thought that he had infected a slight cut on his hand (which was situated in front of and just below the little finger) with the discharge from a bubo in the groin that he had occasion to open. The wound fretted out into a sore about the size of a sixpence, which he shewed me, and which I affirmed had not the thickened edge and base, and other characters of a venereal chancre. I therefore recommended him to
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try the effect of local means, and not to use mercury.

In about a month the sore, which had spread a little, became again contracted in its dimensions, and assumed an healing appearance. At this time pain was felt extending up the arm, and suddenly a considerable tumour arose over the absorbing vessels, which proceed along the inner edge of the biceps muscle. This tumour became nearly as big as a small orange. As the original sore seemed now disposed to heal, and as there was no surrounding induration, I could not believe it venereal, and therefore recommended him still to abstain from mercury, and apply leeches, and linen moistened in the aq. litharg. acet. comp. to the tumour formed over the inflamed absorbents. For it seemed to me that if venereal poison had been imbibed from the sore, it would have passed on to one of the axillary glands, and would have caused induration and inflammation to take place there, more slowly than had occurred on the present occasion.

Under

Under this treatment the tumour was dis-
cuffed, and the fore at the same time healed.
About three weeks afterwards the patient
called on me, and said that there were vene-
real ulcers in his throat; and in each tonsil
there was an ulcer deeply excavated, with ir-
regular edges, and with a surface covered by
adhering matter; ulcers, in short, which
every surgeon, who depends on his sight as
his guide, would have pronounced to be ve-
nereal. Shortly after also, some copper-co-
loured eruptions appeared on his face and
breast. He shewed his diseases to several
surgeons, on whose opinion he relied, who,
without hesitation, affirmed that they were
venereal, and that the mercurial course had
been improperly delayed.

Whilst the patient was looking out for
lodgings, in order that he might go through
the mercurial process, a circumscribed thicken-
ing and elevation of the pericranium cover-
ing the frontal bone appeared; it was of the
circumference of an half-crown piece; and
was, in short, what every surgeon, who is
I guided

guided only by his sight and touch, would, without hesitation, have called a fair corona veneris. I now told the patient that I was more inclined to believe his disease was not syphilitic, from the sudden and simultaneous occurrence of this node with the fore throat, &c. Other surgeons thought differently; and I believe this very sensible and amiable young man imagined that his health would become a sacrifice if he any longer attended to my opinion. He was preparing to submit to a mercurial course, when very important concerns called him instantly into the country. He went with great reluctance, taking with him mercurial ointment, &c.: and after a fortnight I received a letter from him, saying that he found his complaints benefited by his journey, that business had prevented him from beginning the use of mercury for a few days, that he now found it was unnecessary, for his symptoms had almost disappeared, and shortly afterwards he became perfectly well.

At the time, and ever since, I considered this case as meriting publication, as being the

most unequivocal instance extant of a disease occurring, which could not from appearance be distinguished by surgeons of the greatest experience from syphilis, and which, however, was undoubtedly of a different nature; and I believe that there is no one, who would not have decided on this case, as those did who declared it to be venereal, unless they had had an opportunity of watching its progress very attentively. This case probably made me more scrupulous than I should otherwise have been in admitting diseases to be venereal, till their unabating progress established their nature beyond the possibility of doubt; and from this hesitation in deciding I have been enabled to prove, that a great number of cases, in which mercury would have been employed, have got well without the use of that medicine. It has happened to me, as it did to Mr. Hunter, to meet with these cases very frequently, and I therefore conclude that they must occur frequently to others; and my object in relating these instances is to induce surgeons to reflect on the best mode of discriminating between them

and those truly venereal. I have kept no particular account of the numerous cases which I have met with, but the five following instances happened in my own private practice within a few months, and the circumstances of them are still fresh in my memory. The cases are drawn up from narratives which I requested the patients themselves to make out of their own diseases.

C A S E.

A gentleman had a fore on the lower part of the prepuce near the frænum, which was much irritated by travelling from the country. When he came to town there was a good deal of furrounding inflammation, and a thickening adjoining the edges of the fore, which were irregular, and seemingly disposed to spread. An appearance of granulations had taken place on the surface of the ulcer, which was at this time as large as a shilling. I gave him the pilulæ hydrargyri, whilst I tried by local means to quiet the irritation of the fore, and of the furrounding parts. As

the sore appeared to heal slowly, and seemingly in proportion to the quantity of mercury taken, the patient rubbed in at the same time some mercurial ointment, and continued to do so till after the sore was well, which was in about a month. In three weeks after he had left off these medicines this patient applied to me on account of an ulceration on the velum pendulum palati, and on the surface of one tonsil; and soon afterwards ulcers took place on the edges of the tongue, on the inside of the lips and cheeks. Copper-coloured spots also came out on his arms and legs, and all over his body. They were very numerous, but none appeared on his face. By waiting and watching the progress of the disease, I found that some of the ulcers amended spontaneously, and that the palate got well. I therefore exhorted him to refrain from mercurial medicine, and he went into the country. A medical gentleman, whom the patient consulted, was very anxious to try something to cure this disease, when his patient was seized with a severe febrile complaint, during the continuance of which all

these doubtful symptoms disappeared, and there has not been any return of disease since that time.

C A S E.

A gentleman had a small sore on the prepuce, at a little distance behind the corona glandis, which did not appear like a venereal chancre, and therefore no mercury was used. After about a fortnight, during which time it could scarcely be said to be better or worse, it suddenly became considerably indurated in its circumference, and the surrounding parts became inflamed. The hardness was so considerable that it resembled one of those indurated chancres which so frequently occur; and in consequence of this striking resemblance, another surgeon, whom the patient consulted at this time, insisted on his confining himself to his chamber, and using mercury attentively.

The quietude of the patient, with some little attention in regard to local applications, soon removed the inflammation and hardness,
and

and the patient, who was controuled by nothing but his fears, discontinued his medicine after thrice using some mercurial ointment, and returned to his former mode of life.

About a month afterwards he called on me with an ulcer in each tonsil, one of which was deeply excavated, with irregular edges, and covered by adhering matter. Shortly afterwards copper-coloured spots appeared on his body, but they all went away in about a month without mercury.

C A S E.

A gentleman applied to me with a very irritable fore, or rather excoriation, extending itself over the left half of the corona glandis. It was unlike a venereal fore, as may be supposed from this description, yet, as the patient was young and healthy, I advised him to take some of the *pilulæ hydrargyri* to guard against the possible consequences of absorption, and to bathe the parts affected with the *aq. litharg. acet. comp. c. opio*, and to apply

folded linen moistened with the wash round the penis. The prepuce soon became swollen and inflamed, so that he was unable to retract it, and the attempt gave him great pain. He was therefore directed to cleanse the part by injecting frequently the decoction of white poppy heads of a lukewarm temperature. After a week he tried a very weak solution of vitriolated zinc, and other metallic salts, but they all increased his pain, and he was obliged to return to the use of the anodyne wash. When he had persevered in this course three weeks without any evident amendment, we consulted another surgeon, who recommended the discontinuance of the mercurial medicine, and in lieu of it the free use of the bark. This medicine he took for a week without any amendment; he then tried the nitrous acid for ten days, and afterwards took cicuta.

In about two months he was able to retract the foreskin, and then the solution of vitriolated zinc appeared to lessen the irritability, and contribute to the skinning of the fore,
which

which was merely on the surface, not having been attended with any loss of substance.

Afterwards, the penis being subjected to some accidental irritation, the same kind of foreness spread over the other half of the corona glandis; but this disease was not accompanied with so much tenderness as the former one, and 'got well in less than a month. As soon as it was well the patient had an ulceration of the velum pendulum palati, round which the cuticle assumed a whitish colour; the ulceration spread across the palate, but it was evident that the part first affected got better whilst the ulcer became worse in the parts last affected. Two or three ulcers took place upon each edge of the tongue, and some on the inside of the lips. At the same time many copper-coloured spots appeared on the face, breast, arms, and lower extremities; they came out in succession, were of an oval shape, about the size of a sixpence, and had a strikingly venereal aspect.

Believing

Believing that the primary symptoms of this disease were not syphilitic, and observing that some part of the ulcer on the palate healed, and that some of the sores on the tongue and lips got better, whilst new ones broke out, I recommended the patient to use no mercury. He went into the country, where all these maladies gradually disappeared, and in about a month he was perfectly well.

C A S E.

A person, whose irregular habits of life gave reason to suspect the existence of syphilis in the constitution, had ulceration of the tonsils, not superficial, but deep. These were accompanied with copper-coloured spots on the face and breast, and eruptions on the head amidst the hair, accompanied with a great deal of scurf. These got well by anointing the head with ung. hydrarg. nitrat. mixed with simple ointment, which made me doubt whether the other diseases were really syphilitic, and caused me to delay the use of mercury. The complaints did not amend, nor did they get materially worse. There
was

was attending these diseases a good deal of general indisposition; the appetite failed, and no sleep took place till the morning.

At this time a tenderness and thickening of the periosteum of the tibia took place. Though other medicines did not appear to be of any service I still was averse to the use of mercury. Tired of delay, the patient consulted another surgeon, who declared the disease to be venereal, and desired that mercurial ointment might be used. The patient accordingly rubbed in two or three nights without feeling any effect from the medicine, and then set off on a party of pleasure to Brighton, where all the diseases gradually disappeared without any further use of mercury.

C A S E.

A gentleman had an enlargement of a gland in the groin, probably from the absorption of some infectious matter, though he was not conscious of having had any sore. A second and a third gland became enlarged, the integuments

guments became thickened and inflamed, and a very large bubo formed. It suppurated and burst in three places. The general tumefaction subsided, but by no means dispersed, and sinuses remained where the abscesses had been. About this time I saw the patient, which was two months after the first appearance of the disease.

Shortly after this he had an ulceration, which spread over the velum pendulum palati, and, except that it was more superficial, much resembled a syphilitic ulceration. It continued so long without amendment that I began to think it was venereal. Bark was now given plentifully, and the ulcer evidently amended. The patient went afterwards to the sea-side, where the bubo gradually dispersed: many months however elapsed before it entirely disappeared. The ulcerations of the velum pendulum palati also healed slowly, and ulcers which afterwards appeared in the back part of the pharynx, also got well without mercury.

These

These cases are not related as being curious, but because they all, except the first, occurred to me within the space of a few months, and because sufficient time has elapsed since their occurrence to shew that there is no probability that any subsequent disease will arise from the same source. It must be allowed that they are incontestable instances of diseases getting well without mercury, which could not be distinguished by mere inspection from similar diseases truly syphilitic. For though mercury was employed in some of the cases, it was used at such a time, or in such quantity, that it cannot in the least influence our decision as to this point. For instance, in the first case the mercury was employed for the cure of the primary ulcer, and did apparently contribute to it, yet the secondary symptoms got well without mercury, which, according to the opinions now prevailing among surgeons, is a proof that neither were venereal. It may indeed be supposed that the venereal poison may be modified by certain constitutions, and its effects spontaneously get well; and some
may

may question if the secondary symptoms were the consequences of the sores or absorption to which I attribute them. What I have written is, I believe, in conformity to prevailing opinions, and I forbear to enter into uncertain discussions.

These instances, however, though not selected for the purpose, shew that the primary infected sores which are capable of producing secondary symptoms, which strikingly resemble those of syphilis, do not themselves possess any uniform characters. In the first case the ulcer had no uncommon appearance; it was of the size of a shilling, with fretful edges, and every where covered with granulations. In the second there were no apparent granulations, and a great degree of induration suddenly surrounded it, giving it a striking resemblance to the indurated venereal chancre. In the third the sore surface was extremely irritable; but though the disease existed for a long time the ulcerative process did not eat into the part; and at the conclusion of the case there was no loss of substance.

substance. In the fourth and fifth cases the absorption of the matter, which caused the secondary symptoms, either took place without any breach of surface, or the primary sores were too insignificant to excite attention. I lately attended a gentleman who had an ulcerated throat, and eruptions on the head, which broke out between the second and third month after the appearance of a sore on the prepuce, which sore healed in a few days with no other treatment than bathing it with a solution of acetated lead, and applying to it a piece of lint moistened with that liquor. This circumstance made him disregard the primary sore, but he was assured by a surgeon, whom he consulted, that the secondary symptoms were venereal: they however got well without mercury.

It is probable that these morbid poisons may be absorbed without any evident ulcer, or from a trivial ulcer, which may heal spontaneously, much more frequently than the syphilitic poison; and if the consequent constitutional symptoms are considered as venereal,

real, and treated as such, I need not say what confusion must be produced in the mind of the surgeon who pursues this conduct, and how bewildered his opinions must be respecting the venereal disease. If, for instance, in the case beginning at page 123, a surgeon had considered the secondary symptoms as venereal, and employed mercury successfully for their cure, he would set this down as a case of venereal bubo occurring without a previous chancre, and be inclined in his general practice to use mercury in all cases of buboes without chancre, lest constitutional diseases should ensue. There, however, does not appear any thing that should exempt the glands of the groin from enlargement, and diseases to which others are subject, whilst they are particularly liable to irritation and consequent disease from the disorders of the urethra and other parts, to which they are connected by means of their vessels. The general use of mercury, therefore, in enlargement of these glands, unless circumstances characterize them as venereal, must, I think, be considered as improper.

In

In order further to exemplify the remark that the primary sores excited by poisons, capable of producing secondary symptoms resembling syphilis, have no uniform characters, but put on various and dissimilar appearances, I think it right to add another case of a phagedænic ulcer, which spread by sloughing, and which I attended in the early part of last winter. This I have placed by itself, because, as mercury was employed, the conclusions to be drawn from it are less certain than in the preceding cases.

A gentleman had a very irritable sore on the prepuce, just behind the corona glandis, which was covered with slough; this having been thrown off was succeeded by another slough, and the sore spread laterally to the right and left; but it neither extended backwards so as to affect the skin covering the body of the penis, nor forwards so as to touch the glans; neither did it eat deeply into the part so as to affect the corpus cavernosum. I tried various dressings, but none seemed to do much good. I touched the

K. surface

surface of the sore with argentum nitratum, but that did harm. I therefore was obliged to soothe this sore since I could not correct it. A salve made of spermaceti cerate, with as much aq. litharg. acet. and tinct. opii as could be incorporated with it, seemed to answer best; and the parts were kept cool by enveloping them in linen moistened with the decoction of poppies. The most perfect quietude was enjoined, and the part laid upon a pillow with the extremity rather raised above an horizontal line. I had given the patient some pilulæ hydrargyri in the first instance, but his constitution was so deranged by the irritation of the sore that it would have been absurd to persevere in the use of mercury. The sore continued to slough, and to extend in a circular direction nearly all round the prepuce, the lower part of which became extremely swollen. This took up nearly two months: about five weeks after the commencement of the disease a spot appeared more than an inch from the corner of the mouth. It was soon covered over with a scab, which rose far above the surface. It had
encreased

increased to the size of a sixpence, when I thought right to dress it, that I might distinguish the surface of the sore. I found that the ulcer was very deep, but I could not see the surface for a very viscid discharge, which adhered to it like mucus. Poultices and various dressings were employed, but the appearance of the sore was unchanged, and it gradually became of the size of a shilling. At length a kind of fungus shot from that edge of the sore farthest from the mouth. A similar spot had made its appearance on the ear, and was also increasing. The activity in the disease of the prepuce had gradually declined, and I began again to try some medicated applications:—the sore seemed much benefited by touching it daily with *argentum nitratum*; but when this was omitted the sloughy appearance of the sore again took place, and it increased in dimensions. It was now agreed at a consultation that this patient should use mercury, and he rubbed in two drachms, by measure, every night for six weeks. As the mercury took effect it seemed to operate beneficially on the spot on the ear,

K 2

which

which gradually died away ; and on the fore of the penis, which also gradually acquired a healthy appearance, and the parts became sound, except at one part where the prepuce was not quite destroyed, which still retained an unhealthy appearance. The mercury, however, did not affect the sore on the cheek ; the fungus which I mentioned seemed to increase, and, after a time, skin formed over it, so that the sore healed in an unhealthy manner at the edge farthest from the mouth. But it still spread in the other direction till it reached the angle of the mouth, and it afterwards extended itself along each lip. On the upper lip it had spread to the extent of one-third of an inch, and still retained the same diseased appearance which characterized it at the beginning. It was deep, and its surface could not well be seen on account of a viscid matter which adhered to it. It was now agreed in consultation to leave off mercury, lest the irritated state of the mouth should increase the destruction which the ulcer was committing on the lips. The sore now no longer spread ; it very slowly lost its diseased state,

state, and healed. This also happened in the remaining diseased part of the fore on the prepuce.

I have met with many similar cases since those five that have been related, and of which, from their sudden and almost simultaneous occurrence, I was induced to take a written account: within these two months I have seen two cases of eruptions and three of forethroats. The eruptions took place particularly about the hands and feet: in one case the patient has been salivated for them; the disease, however, recurred, and afterwards got well without the use of mercury. In the other there were warts and fores on the prepuce, and buboes in the groin, which suppurated and burst: the eruptions so strikingly resembled those of syphilis that all the medical men, who accidentally saw the patient, exclaimed that they were so, with a confidence proportioned to their professional skill and accuracy of observation. Indeed in this case, and in others, I have been almost impelled to use mercury, in consequence of the

K 3 opinion

opinion and wishes of the patient and those of his friends. The history however of this disease did not accord with that of the venereal; the warts had preceded the sores; some sores healed, and others broke out; and at last some of the eruptions began to get well, and the rest gradually disappeared. One of the patients who had the fore throat had been salivated, but the disease recurred. In the other two I forbore to use mercury, and I have reason to say they will do well without it. In one of the latter cases there were ulcers on the tongue and inside of the lips. This circumstance of the recurrence of these diseases, after mercurial courses, is a strong argument against its adoption till their nature is ascertained as far as possible by prudent delay and attentive observation.

If, then, the occurrence of such cases be frequent, and the necessity of discriminating them from those of syphilis be of great importance, we may solicitously enquire by what circumstances we are to distinguish between diseases so similar in appearance, but
so

so different in their nature. Mr. Hunter seemed to wish the prosecution of this subject, probably from the expectation that some characters appropriate to these diseases might be detected: I have not, however, been able to discover any; the fictitious disease in appearance so exactly resembles syphilis that no observation, however acute, seems to be capable of deciding upon its nature. Although the ulcers in these ambiguous cases generally spread more extensively along the surface of the part which they affect, yet this does not constantly happen, as is shewn in the case related at page 118. In this case, however, the induration which surrounded the chancre occurred suddenly, and went away as rapidly. The history, therefore, of the two diseases was very dissimilar *. It must also be remarked, that
true

* On the subject of induration surrounding chancres I think it may be useful to relate the following case, and to mention that I have known similar ones in a lesser degree:

A student in surgery shewed me an indurated chancre, for the cure of which he had used a great quantity of mercury, which had affected his mouth for a long time, though not severely. The sore so exactly resembled a bad indurated

true venereal spots and ulcers sometimes assume the appearance of other diseases, and do not possess their ordinary characteristics.

Since, then, our senses fail us in our endeavours to discriminate between these two diseases, and since the most important circumstance is to distinguish whether the disease be venereal or not, we may enquire whether there are any circumstances in the progress of these different diseases which will serve us in distinguishing one from the other. It appears to me that there are; and these cases are published not merely to shew the frequency of such occurrences, and the necessity

venereal chancre that I did not hesitate to recommend him to remain at home, and rub in so as to produce a slight salivation. But as no amendment was perceived after a fortnight's confinement, and under a considerable affection of the mouth, I was induced to enquire more strictly into the local treatment of the sore, which I found he was constantly irritating by various stimulating applications. He also affirmed that the hardness had several times gone away and returned again. By bathing the part with milk and water, and dressing it only night and morning with mild salve, the hardness quickly abated, and though he desisted from the mercurial course it soon became perfectly well.

for discrimination, but to engage a more general attention to the means by which such distinction may be made. A very simple fact has enabled me in most cases to distinguish between the two diseases; yet, simple as it is, if it be generally true it is very important; and if it were universally true, it would be of the highest consequence. The fact alluded to is, that the constitutional symptoms of the venereal disease are generally progressive, and never disappear unless medicine be employed. It may be added too, they are as generally relieved under an adequate effect of mercury on the constitution. An attention to such plain and simple circumstances has been of great use in directing the medical treatment which I have pursued, and I am induced to solicit the public attention to them, that others may determine the value of such remarks.

I have asked the opinion of several surgeons of great practice and abilities respecting this question; Whether constitutional symptoms of syphilis do ever spontaneously amend? and no one has decidedly replied in the affirmative,

mative, whilst all, without hesitation, agreed that they were generally progressive till checked by the effect of mercury. It seemed useless to seek further information ; for what surgeon is there at present, if he sees diseases that cannot be distinguished by the sight from syphilis, and hears that they arose in consequence of a chancre, that would suspend his judgment, and forbear to administer mercury ? If I have lived in the habit of so frequently detecting the imposing appearances of the secondary effects of these diseases, it is because I have been upon the watch, and because they have occurred in patients in whom I have seen the primary sores, the appearance and progress of which have excited my suspicion as to their nature. I have stated the rule as general, but not universal ; for I could myself relate cases of diseases, in which, from the great abatement, and even disappearance of symptoms, I have concluded the disease was not syphilitic ; yet, from the duration of the disorder, or from the subsequent aggravation of its symptoms, the patient has desired, and I have recommended the use of mercury, and the

the disease has been treated as venereal without its real nature being ascertained.

The rule which has been mentioned relates to the constitutional symptoms of the venereal disease, for the primary ones, chancres, do sometimes heal spontaneously, generally however, though not constantly, leaving a thickening or induration of the affected part. They may also be induced to heal by topical means, without mercury, with similar events. Some enlargements of glands in the groin will also in like manner subside.

It may be fairly supposed that if some chancres heal spontaneously, that constitutional diseases arising from the same cause, may, in like manner, sometimes get better without medicine. The administration of nitrous acid, opium, and other remedies have been said to have amended, if not entirely cured, these constitutional diseases. But the question is, will they get better spontaneously? and the question can only be solved by experience. Delay will frequently enable
a sur-

a surgeon to decide; but there are cases in which no amendment takes place, and the surgeon is as it were forced, from the progress of the disease, to employ mercury.

In recommending prudent delay and attentive observation I hope and believe that I am not recommending any thing likely to be of dangerous consequences. The venereal disease is generally soon checked by the use of mercury; and in constitutions where much medicine is required to counteract its effects, that medicine may be given with freedom. By delay and observation we perhaps may perceive that eruptions and sore throats, which could not from appearance be distinguished from venereal, spontaneously amend: that some eruptions scale and become well, and the probability will of course be that the rest will do so likewise: or that an ulcer mends in one part though it may spread in another, when the natural inference is that the diseased actions in the sore will gradually cease, and health return spontaneously; and that what has occurred in one part of
an

an ulcer will fucceffively take place in another.

In recommending delay it cannot, I fup-
 pofe, be thought that I would advife any one
 to wait till an ulcer deftroyed the velum pen-
 dulum palati, or did material injury to any
 important part. There are cafes where the
 progrefs of the difeafe obliges a furgeon to ufe
 mercury even though he may be fufpicious
 that it is not fyphilitic. The effect of ex-
 citing a mercurial affection of the conftitu-
 tion in difeafes refembling fyphilis is, as far as
 my obfervation enables me to determine, very
 various. It fometimes cures them very fud-
 denly and very differently from the gradual
 amendment which it produces in truly vene-
 real difeafes. Sometimes, however, thefe
 difeafes yield more flowly to its operation,
 and are cured permanently. Sometimes the
 difeafes recur in the fame parts after a fe-
 vere courfe of mercury; fometimes mercury
 merely checks the difeafe, and can fcarcely be
 faid to cure it; in which cafe it feems impor-
 tant to fupport the ftrength of the conftitu-
 tion,

tion, and to keep up that mercurial effect which controuls the disease, and can be borne without material derangement of the constitution for a great length of time. Sometimes also the use of mercury aggravates these diseases.

Again, in some constitutions, the venereal disease may assume unusual characters, and be very difficult of cure. It must then be scarcely possible to discriminate between these anomalous cases of syphilis and those of diseases resembling it, unless some new distinctions are discovered.

But I suppress any further observation on the subject, having accomplished the intention of this paper, which was to depict a kind of cases which very frequently occurs in this metropolis, and which is, I believe, too commonly treated as venereal, but which may be distinguished not to be so by a little prudent delay and attentive observation. The frequent cases of such disorders which I have recently met with has suggested the idea that they are increasing of late; nor is it improbable

bable since they are like syphilis, propagated by promiscuous intercourse from secretions, or sores not so readily curable by mercury as those that are venereal, and some of which are not from their nature so prohibitory of that intercourse.

It is now nearly two years since this paper was drawn out as a subject for discussion at a medical society; and, after such an interval, the chance of any of the disorders which are described in it returning is diminished almost to nothing. I have since met with considerable numbers of similar diseases, which gives confirmation to the opinion that they are frequent occurrences. In some later cases, when the disease has been long protracted, and the patient very anxious to get rid of it, I have given a little calomel for that purpose, but not so as to invalidate the opinion that the disease was not syphilitic. Having waited for instance, four months from the occurrence of a sore throat with eruptions, and being certified by the progress of the disorders that they were not syphilitic, I have directed

directed that one of the compound calomel pills * should be taken every second or third night, which generally disposes the sores in the throat to heal, but I have taken care to remit the use of even this small quantity of mercury if it seemed to heal the sores too speedily, for it seems to me better to let the disease exhaust itself than suddenly to cure it, as in the latter case it is very likely to return. In confirmation of this opinion I may mention, that, about five years ago, a gentleman applied to me to undergo a salivation for the cure of a sore throat, for which he had been salivated three times, once in each succeeding year. I need scarcely say that it was one of those ulcerated throats which have been described. All medicine was abstained from; and in between three and four months the sores spontaneously became well, and have never since recurred. The whole of this paper has been written upon the presumption

* This pill, as prescribed in the pharmacopeia of St. Bartholomew's Hospital, contains 1 grain of calomel, 1 grain of the precipitated sulphur of antimony, and 2 grains of powdered gum guaiacum.

that diseases which spontaneously get well are not syphilitic, which is, I believe, the general opinion. It may, perhaps, be questioned by some whether the diseases here recorded may not be modifications of the venereal disease. The practical rules of conduct will not, however, be altered even if such a supposition were verified, so that it does not seem necessary to discuss this point: it may however be right to remark, that there are cases which would induce the belief that ulcerated fore throats, eruptions, and nodes on the bones, similar to those described in this paper, may occur from a general disturbance of the constitution without the absorption of any infectious matter.

S E C T. II.

HAVING written the foregoing account, I intended here to conclude, having, in my own opinion, accomplished my purpose, which was to prosecute in some degree the subject which Mr. Hunter deemed worthy of investigation, and to depict the circumstances of diseases which I believe very frequently occur, and which are often confounded with cases of syphilis, to the detriment of patients, and the discredit of our profession. But having requested the opinions of two of my medical friends on the foregoing paper, one of them said that he thought the publication of it would be injurious, as it might induce the younger surgeons to abstain from the use of mercury, to the prejudice of their patients; the other gentleman said that he thought more explicit descriptions should be given of the cases in which mercury should be withheld or employed. In consequence of these

these opinions I am induced to take a closer comparative view of diseases that are, and of those that are not, syphilitic.

I undertake the task reluctantly, because the brevity with which I must speak of these subjects may render my opinions liable to misapprehension, and because I do not feel competent to its proper performance. Yet, by this means, I think I shall do away the objection of one of my medical friends: for I believe that I am myself more likely to err in recommending the too free than the too sparing administration of mercury in diseases of this nature. Any surgeon who has observed the ruinous consequences of repeated mercurial courses in some constitutions would probably err in the same manner; and his dislike to disorder the constitution by mercury would probably lead him even to use it more freely than might be absolutely necessary: this he would do in cases clearly syphilitic, in order to prevent the possibility of the recurrence of disease, and a repetition of a mercurial course. In doubtful cases, which are

cured by exciting the mercurial action in the constitution, he would adopt a similar mode of treatment in order to suppress the disease for so long a time as to make it less likely to recur; or if any subsequent disease should take place, to render it highly probable that this was not venereal, since it had broken out after such a course of mercury as must be considered to be adequate to the cure of almost any disease of that nature. By undertaking this task I shall perhaps comply with the wishes of my other friend in stating more explicitly the circumstances which should induce a surgeon immediately to use or abstain from the administration of mercury, and, at the same time, contribute my mite of observation to those already offered on this still obscure subject of venereal diseases.

Primary sores or chancres are extremely various in their appearance, and perhaps in their nature. The most clearly marked venereal chancre has been excellently described by Mr. Hunter. The striking characters of the disease are, an ulcerating inflammation
without

without any reparation, attended with induration of the surrounding parts. The description is, a sore of a somewhat circular form, excavated, without granulations, with matter adhering to the surface, and with a thickened base and edge.

There is another species of chancre in which the disposition to ulcerate is less than usual, and the disposition to indurate is greater; so that the ulcerated surface may heal, and leave an indurated knob or tubercle in the affected part.

There are besides some chancres in which the diseased action seems to be very inert; in these the ulcer is superficial, the thickening of the surrounding parts slight, and, after some time, the ulcerated surface acquires a state of health, and cicatrizes, without producing any perceptible granulations.

But it is impossible to depict by words the various sores, some of which are of a very irritable nature, that are produced by vene-

real virus, and through the medium of which the constitution is contaminated by that poison. Mr. Hunter, apparently influenced by this belief, speaks briefly on the subject of chancres, and observes that the sore induced by venereal virus will partake of the prevalent dispositions to disease existing in the constitution or the part. If, then, many venereal chancres are so anomalous in their appearance, it is by their history that we must chiefly be guided in forming our opinion of their nature, as will be presently more fully insisted on *. Respecting these irritable and uncharacteristic

* When mercury is administered in these anomalous venereal chancres it sometimes amends them, sometimes it appears to have little or no effect on them, and sometimes, by increasing the febrile indisposition which they occasion, its operation appears to be prejudicial. Sometimes, likewise, the irritation which these sores keep up in the general system prevents the specific operation of mercury on the constitution, and therefore, in many cases, we are obliged, for different reasons, to postpone the use of mercury when it seems to be either unavailing or injurious, and to resume it when future circumstances indicate. The local treatment of anomalous irritable sores is, under these circumstances, of the highest importance. The removal of the discharges from such sores seems essential, yet every mechanical irrita-
tion

characteristic chancres I wish to mention some observations, which have induced me to believe that the venereal poison can be conveyed into the constitution, and contaminate it through the medium of a sore, the general actions of which are probably not venereal.

C A S E.

A healthy young man had a chancre behind the corona glandis, which was very

tion should be avoided ; and when, therefore, the retraction of the prepuce cannot be effected without injury to the fores, the discharges should be washed away by frequent injections of tepid opiate washes. The heat and irritation should be alleviated by keeping up evaporation from the surface by linen folded and applied round the part, and moistened with opiate lotions. The penis should be supported in an horizontal position, and kept free from that excitement which pressure or friction may occasion. As soon as it is probable the fores will bear stimulants of any kind, weak solutions of metallic salts, and similar applications, may be used to correct their morbid state ; and the strength of these applications may be gradually and cautiously increased, so as to lessen the morbid irritability of these fores. But it is foreign to my design to discuss the treatment of these cases ; and the relation which has been given of some of them will serve as specimens of that plan of conduct which I should adopt and recommend.

irritable, threw off successive sloughs, which came away in small portions, and discharged a bloody sanies. It caused so much swelling of the prepuce as, after a short time, to prevent the retraction of that part, so that he could only cleanse it by frequently injecting the decoctum capiti papaveris. This sore disordered his constitution. As he was healthy he took the pil. hydrarg., and rubbed in the mercurial ointment in considerable quantities for more than a month; but it neither checked the progress of the sore, nor affected his habit. It may be remarked that the irritable state of the constitution, which these sores occasion, often counteracts the operation of mercury. This unavailing mercurial course was now desisted from, when the ulcer had destroyed about one half of the glans; it still continued to spread, though slowly, and afterwards healed. In about two months this patient had eruptions and fore-throat, which had the characteristic marks of syphilis, and yielded regularly, like the symptoms of that disease, to the effects of mercury. Again, after the lapse of some months,

nodes

nodes appeared on the tibia and ulna, with nocturnal pains in those parts, and in the head. These complaints were equally characteristic, and gave way to the operation of mercury, after which the patient had no return of disease.—Can we say that the actions of a fore, which were not amended by mercury, and afterwards got well without that medicine, were venereal? or did the mercury administered, as sometimes happens, cure the venereal actions of the fore, and so dispose it to heal afterwards, yet without preventing the absorbed venereal poison from producing constitutional syphilis?

C A S E.

Another healthy young man had three irritable fores behind the corona glandis; one in the middle, one by the side of the frænum, and one in the intermediate space. These fores discharged a viscid sanies, were of a livid colour, did not eat into the part, but rather rose above the surface, and threw off no sloughs. We tried, unavailingly, to quiet
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their irritability by opiate applications, and to correct their diseased state by a great variety of other local means. This patient took mercury; and, in consultation, it was determined that he should persevere in it till his constitution was affected. This happened in about six weeks, but the medicine did not operate in the way that was desired. It made the patient weak and ill, but did not affect his gums; and at last brought on so violent an affection of his bowels as obliged him to desist, although the sores were not amended. Knowing that irritable sores, which in the first instance resist the effects of local applications, do afterwards yield to them when the powers of the disease are, as it were, in some degree exhausted, or its nature in some way altered. I one morning, by way of experiment, touched one of the sores with the *argentum nitratum*, and was the next day surprised to see the amendment it had produced. I repeated the application to this sore, and employed it to the other two, and in a few days all the sores were well. As soon as this gentleman was a little recovered from

the debility occasioned by the disease and the medicine he went into the country, from whence he returned after six weeks, with three small indurations in the situation of the three fores. These indurations regularly increased, and one of them began to ulcerate on the surface. They were shewn to surgeons of the greatest experience and eminence, and no doubt was entertained but that they were three indurated venereal chancres. This opinion was confirmed by their giving way regularly to the use of mercury, which was persisted in till they were completely dispersed, since which time there has been no return of disease.

It appears to me from such cases that the irritation of the venereal virus may excite extensive surrounding disease which is not venereal. In the first case it seems to have got admission into the constitution, and as the mercury employed had not its specific operation, the poison produced its customary effects. In the latter it seems to have been controuled but not cured by mercury, and afterwards

afterwards to have excited true venereal action without producing irritation in the surrounding parts. I need not say that these cases which suggested the idea which has been mentioned, are far from proving its truth. I could relate a great number of similar cases; and in some instances, when the irritable action of the sore has ceased, I have known it become indurated throughout its whole extent. These kind of cases appear to me to deserve particular attention, as it must be by such means that we may be enabled to draw up a history of the irregularities of the venereal disease. Nor is this opinion, which has been mentioned, unsupported by analogy; for the same thing happens when constitutional symptoms of syphilis occur. The first irritation of venereal disease in the throat frequently produces extensive erysipelatous inflammation in irritable constitutions. Of this the patient complains, and to this the practitioner attends; and when it is mitigated or cured a local venereal ulcer appears, which must be regarded as the cause of this more general disease. In
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like manner the appearance of a local venereal node is ushered in by general rheumatic pains in the limb and contiguous joints, which engage the first attention, till at length the cause which produced them becomes manifest. I mean here only to advert to those rheumatic affections which, as it were, usher in venereal diseases, and then terminate, and not to those which occur and accompany the venereal diseases of the bones in some constitutions. If this opinion be correct, it will indeed only tend to perplex farther this already intricate subject; yet it is only by a recital and proper attention to every fact, that it can ultimately be made clear and simple.

If then, as seems to be the opinion of Mr. Hunter, the venereal actions in a chancre may be sometimes so modified by the diseased propensities of the constitution, or part, as to form an ulcer scarcely cognizable as a venereal one; and if in some rare cases the poison may infect the constitution, and produce a sore, the general actions of which are not syphilitic, it follows, as a general rule of conduct

duct in practice, that surgeons are not to confide in their powers of discrimination, but in all cases of ulcers arising from impure intercourse to act as if the sore was venereal, to give sufficient mercury slightly to affect the constitution, to guard against the consequences of absorption, and, by local and other general means, to cure as quickly as possible the local disease, and thus remove the source of contamination, and the necessity for the continuance of medicine. This is, I believe, the general rule of practice adopted by the best surgeons, and it appears to me, in the present state of our knowledge of these diseases, to be judicious. One advantage results from this plan of conduct, which is, that if constitutional symptoms follow from a sore treated in a manner that ought to have prevented contamination of the habit had the sore been venereal, our suspicions are excited, and by attentive observation we may perhaps discover that they are well founded.

In cases of anomalous sores it may be enquired, if in those, which the event proves to be of a venereal nature, the disease deviates materially

terially from its common characters, that of an ulcerative process without reparation, and extending in every direction. Do these sores enlarge by sloughing, or produce granulation or fungus? do they spread otherwise than nearly equally in their whole circumference? does the ulceration extend in them only in particular directions? do they heal in one part and spread in another? or do they amend and become worse suddenly? Those infected sores which are not venereal have such peculiarities, as has been shewn in the first part of this paper, and as they are so very various, it becomes necessary to distinguish them from those which are syphilitic by accurately noting the progress of anomalous cases of the latter disease. It is extremely difficult to form any correct opinions on this subject on account of its intricacy, and the almost impossibility of abstaining from the use of mercury; but it is a subject highly deserving enquiry, and which never can be fairly investigated till it be known that the secondary symptoms arising from sores may not be venereal, though their appearances cannot be distinguished

distinguished from such diseases by sight alone.

With respect to sores that are not venereal the difficulties of investigation are greatly multiplied. If a description cannot be given of venereal sores, it seems almost absurd to say any thing of those multiform sores produced by infectious matter, the qualities of which may be probably variously modified, and the effects of which appear equally liable to modification from peculiarities of constitution. Yet in this intricate subject there are certain facts which can be distinctly observed, and deserve attention. Some of these sores spread by ulceration, and some by sloughing, of which instances are related in the first section of this paper. Even Celsus has described several species of sores which, as Dr. Adams has observed, we are acquainted with in the present day. I have never seen that phagedænic ulcer, which suddenly sloughs, affect the constitution; neither do I believe that surgeons in general have remarked it; those who regard all these sores as venereal attribute

the absence of secondary symptoms to the chancre having been removed by the sloughing of the surrounding parts. Yet in the case related by Mr. French in Mr. Hunter's Treatise on the Venereal Disease, secondary symptoms did occur from a sore of this kind, and got well without mercury. It may therefore, perhaps, be doubted whether this disease be not an aggravated form of the sore which sloughs more slowly, and from which the constitution is much more frequently affected. As I consider any observations that I have made on these sores to be incomplete, and therefore not to be depended upon, and Dr. Adams having restricted the term Phagedæna to one kind of destructive sore, I feel more inclined to leave it as a generic term for all these sores, and to divide them into species according to their peculiar characters. Then we may describe them as ulcerating phagedænic sores, and sores which spread by sloughing. Again, the ulcerating or sloughing process may extend not in all but in particular directions, and the sloughs may take place from the edges or from the whole

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surface. As Dr. Adams has treated these subjects at large, I refer the reader to his book; but I will take upon me to describe one species of sore which frequently occurs, and is generally treated as venereal, but which I am convinced is not so.

The sores alluded to generally break out in succession, and sometimes after a considerable interval of time; which circumstance, if remarked, would render it improbable that they arose from infection of the ulcerated part, since such sores would probably be contemporary. The ulcer is at first inflamed, and spreads ordinarily to the size of the finger nail: its circumference is thickened; it throws out new flesh, which rises above the surrounding skin; sometimes there is an appearance of several little cells or spaces in the interstices of the granulations, if they may be called so, owing to the whole ulcer not producing new flesh in an equal degree. These sores are slow in healing under any mode of treatment, and they generally get well in the same succession as they broke out.

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They sometimes form in a circle round the orifice of the prepuce, and cause a contraction in that part after they have healed. I do not mean to say that all sores occupying this situation are not venereal, but merely to state that sometimes after a gonorrhœa of the prepuce, either originally occurring there, or having happened by a metastasis of disease from the urethra, sores do break out in this situation at a remote period from the receipt of the infection, which are not venereal. They seem to be the consequence of an irritated state of the prepuce, from which there is sometimes a slight general discharge, like that which takes place when the gonorrhœa shifts its situation from the mouth of the urethra, and becomes the gonorrhœa of the prepuce. The glands in the groin sometimes swell from irritation in these cases, and generally subside again, though I have known them suppurate; but I never saw any secondary symptoms succeed to this species of ulcer.

In the earlier part of my practice, in conformity to general rules, I used to give mer-

cury in these ulcers to secure the constitution against infection, whilst I tried to heal the sores as speedily as I could by topical applications. Slightly destroying the surface with the *argentum nitratum* every second day, and dressing with the solution of *zincum vitriolatum*, were the local means which seemed to be most successful. An attention to the history of the disease, and frequent applications for advice from persons who had been severely and unavailingly salivated for the cure of this species of sore, soon emboldened me to abstain from the use of mercury, and I have never found, though I have met with a considerable number of instances, that I have in this respect acted wrong.

As I believe that the relation of cases conveys information respecting diseases more correctly and strikingly than any other mode of description, I shall mention the circumstances of a case which occurred to me no long time ago. A gentleman had a slight irritation in the urethra, and, after a few days, found the prepuce a little swollen, with
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a small discharge from beneath it. This was checked by a weak solution of *zincum vitriolatum*; and afterwards three sores, such as I have described, broke out in succession, for which he used mercury so as to affect his mouth. The sores slowly healed, but two new ones made their appearance, and the mercurial course was persevered in. These sores also healed slowly, and a running came on from the urethra, no new sores having appeared. The mercury was left off, the gentleman came to town, and was much distressed to find that three other sores, exactly like the former ones, now broke out, but the discharge from the urethra had ceased. At this period he applied to me, and gave me the foregoing narrative of his disorder, with an assurance that he had exposed himself to no new risk of infection. I employed only local means for their cure, being satisfied by the history as well as the appearance of the sores that they were not syphilitic. Near a month elapsed before any considerable amendment took place, when a swelling appeared in the groin, and the sores healed suddenly

in a few days. Leeches and Goulard's wash were employed to disperse the bubo, but in vain: it suppurated, and formed a very unhealthy abscess. There was a great deal of surrounding erysipelatous inflammation, the cuticle separated from the surface of the bubo, the skin became livid, and gave discharge to the matter by a partly sloughing and partly ulcerating process. This, however, proved the crisis of the complaint: the abscess having thus broken filled up, and healed in the course of about three weeks, since which the patient has had no return of disease. This gentleman was liable to have fores break out spontaneously on the prepuce: they got well readily by bathing them with a weak solution of *zincum vitriolatum*; and I believe that persons who have naturally an irritable state of the prepuce are most obnoxious to such affections. We must not, however, impute the occurrence of these peculiar fores to mere irritability, but to some specific contagion.

The discharge from the urethra in such cases is not considerable, nor attended with
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much inflammation or chordee, nor does it increase in violence; it may therefore be easily distinguished from common gonorrhæa and its varieties.

Sometimes, in a common gonorrhæa, the disease shifts its ground and attacks the foreskin, and fores from about the orifice of this part. These are of a different nature from the fores which I have been describing: their surface is generally glossy, not producing exuberant new flesh, and their colour is unhealthy. They generally get well as the disease returns to its original situation in the urethra. I merely mention these circumstances to induce attention, and to prevent surgeons from confounding the fores which I have been describing with any others similarly situated, but different in their nature.

I am desirous of briefly relating an anecdote, communicated to me by an eminent surgeon in this town, on the subject of fores that occur from a disorder first affecting the urethra. This case deserves attention, not

only as being curious in itself but because it corroborates the foregoing observation by the testimony of another. A gentleman lately married complained to his surgeon of a running from the urethra, which so strikingly resembled a venereal gonorrhœa that the latter could not but ascribe it to infection. He had afterwards a swelling of the prepuce, and fores on that part, which confirmed the surgeon in his opinion, and produced a kind of diffension between his patient and him, the one affirming that the disease was venereal, the other that it could not possibly be so, as his wife had no disease, and he had had connexion with no other woman. The effect of this litigation was, that the surgeon could not urge the taking mercury, nor would the patient require the administration of that medicine, though a bubo, forethroat, and eruptions succeeded, which could not be distinguished from similar complaints of a syphilitic nature, but all of which spontaneously got well.

Under this head of fores which occur on the genitals, and which are not syphilitic, I
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may mention one species that I have several times seen on the side of the penis, which is herpetic, affecting new parts whilst those first affected get well; so that the sore may exist a long time, and be very troublesome, though its situation may have varied considerably.

I have also seen a circle of small sores, like what takes place in tinea, occur on the outside of the prepuce in consequence of some acrimonious secretions being applied to it in sexual intercourse. Some diseases, whatever may be their primary nature, do, after a time, extend themselves between the integuments and the subjacent parts. I have known many diseases which burrow in this manner treated as syphilitic, and, as the event of the cases has proved, improperly. Indeed the progress of such diseases is so different from that of syphilis, that it is natural to discredit its being so. Diseases which proceed in this manner seem to be of an irritable nature, and to affect most those parts which have least powers of life, which appears to be the cause of their peculiar mode of extending themselves.

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I have in the foregoing pages endeavoured to represent briefly the circumstances of the primary ulcers of diseases which are, and of those which are not, syphilitic, and to state the general rules for the administration of mercury ; and, at the same time, I have described some sores which have not, as far as I know, been distinguished, and which, in my opinion, are not venereal, though they are generally treated as such. To take a similar comparative view of constitutional diseases arising from these various sores would render this paper too prolix. I hope it will be seen that I do not presume, nor do I see cause, to deviate from those established rules of practice founded on the general experience of surgeons. It would indeed, in my opinion, be presumptuous in an individual to form general rules drawn from his scanty experience ; I may be allowed, however, to remark that individuals of the profession are likely to err by inferences drawn from their own practice ; and it appears to me that some professional men at present are inclined to believe all sores arising from impure connexion to be syphilitic, whilst others may be too

too scrupulous in expecting all syphilitic sores to possess their common characters. The truth probably in this, as in other instances, lies between these extremes. Much however, it must be acknowledged, remains to be ascertained, and I think that those surgeons would do essential service to science, who would give an accurate account of the irregularities of the venereal disease. But such an account never can be given by one, who esteems all diseases venereal, which resemble venereal diseases in appearance. The foregoing cases will, I think, at least prove this to be fact; and it was a principal incitement to their publication, that if this fact were generally admitted, it might lead to that scrupulous attention and impartial observation of syphilitic diseases, as would probably lead to accurate distinctions, and the removal of that obscurity with which they have hitherto been surrounded. I have suppressed many observations of my own on this subject, from a belief that it is better to say nothing than to offer opinions not fully confirmed by facts. The idea that syphilis is a most variable and proteus-

proteus-like disease has probably arisen from those irregular diseases which I have described in the first section of this paper being confounded with it. The opinion is however prejudicial, as it checks attentive observation by declaring its inutility. If it should be in our power, as I should hope it may, by directing our attention to the history rather than to the appearances of these diseases, to distinguish syphilis from other complaints, then we may also be able to describe the irregularities of this disease, and to inform others when it assumes deceptive characters, and pursues an unusual track, what disguise it puts on, and what courses it follows.

ON INJURIES OF THE HEAD.

IN the essays which I formerly published, as well as in the present work, I have endeavoured to excite the attention of surgeons to particular points of practice, and to establish them by cases, without entering into a full discussion of any surgical subject. This plan, though useful from its brevity, is not without its inconvenience. In the account of injury done to the head I stated, that, in my opinion, the older surgeons had recommended the operation of the trephine to be performed in some cases unnecessarily; whilst others, who had witnessed the frequent ill success attending that operation, seemed inclined to reprobate it too generally. In order to shew what were the kind of cases in which it might be abstained from, I related several instances of fractures with slight depression, which did perfectly well without the operation of the trephine: I also mentioned other

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cases

cases to prove that slight pressure on the brain is not productive of those dreadful consequences which had been formerly apprehended. These facts were intended to point out the impropriety of the former practice, which was founded on the belief that the brain was an organ of such delicate structure that the least degree of pressure would be highly injurious: which opinions would induce us to trephine in cases of slight depression, or even where a little blood was supposed to be effused upon the dura mater. Yet I know that several surgeons, whose judgment I respect, thought that the representation which I gave of this subject might induce others to abstain from the operation of the trephine, when it was necessary, in a prejudicial degree. I must however say, that many cases which have occurred since my last publication have tended to confirm the opinions which I have delivered on this subject. One of these I shall briefly relate.

A lad, eighteen years of age, had the squamous part of the temporal bone beaten in;
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the fracture ran horizontally, about a quarter of an inch above the zygoma, and could be distinctly traced with the finger, introduced through the torn scalp and temporal muscle, for two inches. The upper part of the bone was depressed about one-eighth of an inch; and it was impossible to trephine below the fracture in order to elevate the depressed portion. The lad had recovered from the immediate stunning occasioned by the injury, nor was there any symptom that indicated material derangement of the functions of the brain from the pressure which it sustained. He was bled largely, and took purging medicine, and was moderately well on the following day. On the second morning he was again purged; and when I saw him at noon nothing materially wrong appeared; but when I came to the hospital at eight in the evening I found he had gradually become delirious, and that he then could scarcely be kept in bed. His skin was hot, and his pulse frequent and strong. These symptoms could be attributed to nothing but inflammation of the brain; he was therefore immediately and

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largely

largely bled. He now became quiet and manageable; but the next morning his replies to all questions were incoherent, his pulse frequent, his skin hot, and his tongue dry. The bleeding and purging were repeated, and at night a blister was applied to his neck. On the following morning he was sleeping and feeble, but his answers were rational; as the frequency and fulness of his pulse increased in the evening, he was again bled. The inflammation of the brain was now subdued, and the patient gradually recovered. The wound healed without any exfoliation of bone, and when he was discharged from the hospital there was not the most trivial circumstance which could induce us to suspect that the brain had sustained any injury from the accident. His sleep was sound and undisturbed, and the sudden motion of his head in any direction occasioned no giddiness or inconvenience.

This case, with the others that I have related, shews that the inflammation of the brain is to be expected as a consequence of
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any serious injury of the head, and can scarcely be considered as the effect of slight pressure, as it frequently does not occur till some time after the pressure has existed, and is removed though the pressure still remains.

I have said, that the cases which I have met with since my former publication on this subject, have confirmed the opinions that were then delivered. Candour however obliges me to relate the circumstances of the only case, which I have seen since that time, of fracture with slight depression of the skull which terminated fatally.

June 3, 1802. A coachman, twenty-three years of age was thrown from his box. The middle of the anterior edge of the right parietal bone was fractured, and a piece about the size of a sixpence was slightly depressed. He soon recovered from the stunning occasioned by the fall, and did not come to the hospital till the succeeding day. As he was perfectly well he was but slightly bled, and no bad consequences of this injury appeared

for two months. At this time he came again to the hospital, complaining of spasms in his left arm. The wound, which was not yet healed being examined, the depressed bone was found to be loose, and was removed, which alleviated the spasms. Soon afterwards a portion of the external table of the skull also came away. In the middle of September his health seemed much deranged, and he continued to get weaker till the middle of October. The dura mater had gradually become protuberant, and covered with a fungus; it at last gave way, and coagulated blood was discharged mixed with detached pieces of the substance of the brain. The left arm had now lost its sensation, though the patient could feebly direct its motions. On the 17th of October the patient became very ill, and much bloody serum was discharged from the wound. He was delirious during the night, but on the next day understood all questions proposed to him; blood and brain were discharged through the wound. On the evening of the 19th he died. There was found a vacancy in the membranes of the brain, opposite

to the deficiency in the bone, through which the effused blood and crushed brain had been discharged. In other respects these membranes were perfectly found. The whole right hemisphere of the brain seemed to be reduced into a pulpy and fetid mass, composed of a mixture of blood and brain; the cortical substance, to the depth of about half an inch, remaining found, and containing the other. This large cavity communicated with the left ventricle under the fornix.

The want of any urgent symptoms in the beginning of this case prevented the patient from submitting to those strict attentions, which might have produced his ultimate welfare. The reader must form his own opinion whether the continuance of the pressure of the bone was the cause of the disease in the substance of the brain. In order to form a correct opinion it should be considered that sometimes the immediate bruise of the brain will occasion such a disease, although the depressed bone be speedily elevated, of which instances are related in my former

publication: and that sometimes disease and abscesses of the brain ensue from mere concussion, as was the case in Le Sieur de Gallois, related by Mr. Louis in the *Memoires de l'Academie de Chirurgie*, tom. 5. They may occur also without any fracture of the bone, perhaps from the irritation which dead bone occasions in the subjacent parts; of which I shall relate the following instance.

A man had the scalp bruised and torn down by the wheel of a cart from off the frontal bone. He was not stunned at all by the accident. The bruised scalp mortified and the bone was left bare. He remained in the hospital waiting for exfoliation, and as he had no illness, but little attention was paid to him. After about two months, however, he became weak, and ultimately delirious, and died, and on examination an abscess containing about one ounce and a half of pus was found in the front lobe of the cerebrum, beneath the dead bone, and full half an inch from the surface.

It was my object in the former publication, simply to state the circumstances of cases of fractures of the cranium with slight depression, which would do well without elevation. Had I been speaking at large on the subject of trephining, I should have stated it as my opinion, that the inflammatory symptoms would probably be more severe after that operation has been performed, than they would have been, had it been omitted. This opinion has been formed from observing, that in many cases, where the trephine has been employed in cases of slight depression, the subsequent inflammatory symptoms have been so violent that they could not be controuled by the most copious evacuations, and that the patients have in consequence died. Indeed the opinion is sufficiently probable to make it admitted, were it not supported by numerous facts: for in trephining an additional injury must be done to the scalp and cranium, which would increase the sympathetic irritation of the internal parts; and the susceptibility of the brain would probably be increased, when that slight pressure, which it had endured was

suddenly taken away. Probably the vehemence and frequent fatality of the inflammation, which follows the operation of the trephine, is the circumstance which has led some practitioners to be unwarrantably averse to its performance. It cannot be supposed that I mean to describe the subsequent symptoms as in every instance uncontrollable and fatal; on the contrary I know it to be a necessary and successful operation. I only mean to remark that inflammation will come on with or without its performance in cases of violent injury, and that it would probably be more violent under the former than under the latter circumstance. Had I been in the former publication writing expressly on the operation of the trephine, I should have stated it as my opinion, that no considerable depression of the cranium ought to be suffered to remain; and that every hazard should be encountered rather than such a degree of pressure should be suffered to remain, as might be productive of future inflammation and disease, or disturb the functions of so important an organ as the brain. The object of my last publication

tion was to shew, as far as my opportunities of observation enabled me, what appeared to be the kind of cases, in which it would be injurious to apply the trephine, and what cases would do well without that operation.

If I had been writing expressly on the circumstances requiring the operation of the trephine, I should also have said, that where the bone was broken into many pieces, so as to render it probable that they would not unite, but on the contrary that some would perish, and that suppuration would take place, it would be right to make a small perforation, and take away the splintered portions of bone. They might otherwise become loosened by suppuration, and keep up for a length of time an irritation on the subjacent membranes and brain, in consequence of that sympathy which exists between external and internal parts.

It will be acknowledged, that it is very difficult to decide in some cases, whether it is preferable to trephine or not. All that I have said, either in the former paper, or in this, is

designed more to excite observation and investigation in others, than from a belief that I have established any certain rules for decision. The cases on which the opinions are founded must, however, I think, be worthy of attention.

Since my last publication on this subject I have met with a case of concussion of the brain, so remarkable on account of the violence of the succeeding inflammatory symptoms and their consequences, and on account of the recovery of the patient under such violent and complicated disease, that I deem it worthy of publication. The case was attended by Mr. Sheppard of Chew Magna, who was, at the time it happened, dressing pupil to Sir Charles Blicke at St. Bartholomew's hospital. To his judicious and unremitting attention I cannot but attribute in a great degree the ultimate welfare of the patient. The account which I have drawn up, is taken from Mr. Sheppard's notes.

David Davis, a robust man, thirty-five years of age, was admitted into St. Bartholomew's hospital

hospital on the 21st of November 1799. He had fallen from a considerable height on his head, and had bruised and wounded the scalp, but without fracturing the bone. He was, when brought to the hospital, so far insensible, as not to be affected by slight impressions, and his extremities were cold. His feet were put into hot water, and, after some time, he became warm and more sensible, and the pupils of his eyes contracted as in common. Twelve ounces of blood were taken from the temporal artery, and a purging medicine given. On the following day, the pulse being full and hard, sixteen ounces more of blood were taken away, and the purging medicine repeated, which procured several stools, and a blister was also applied to the nape of the neck. Notwithstanding these measures, however, he became delirious, and his skin felt hot, and he complained of pain in his head. Twelve ounces more of blood were therefore taken, and three grains of pulvis antimonialis given every fourth hour.

November 24. The delirium still continued, but the patient lay more quiet: his
pulse

pulse was 120 and full, therefore twelve ounces of blood were taken, and as the delirium and strength of the pulse still continued, in the evening the bleeding was repeated to the extent of twelve ounces. His bowels were also emptied by magnesia vitriolata and senna. Afterwards he had thirty drops of Tra. opii given him at night. He slept some hours in the night, and next morning his pulse was less hard, and only 96 in a minute; his answers to questions were also much more rational, and delivered in a less loud and quick tone of voice than before. For during the greater part of the delirium he had been very unmanageable, rolling about in bed and endeavouring to get up, and speaking in a loud and fierce manner. Toward the evening the symptoms again increased; his pulse was 120, and harder and fuller than in the morning; his skin was hot, and he complained of thirst. He had taken purging medicine in the morning, which had operated. Three grains of antimonial powder were now given every fourth hour, and his feet put into warm water in hopes of procuring perspiration: ten ounces of blood were

were taken from the temporal artery, and the opiate repeated at night.

25th. The patient had slept during great part of the night; his pulse 100; he complained of cold though his skin was hot, and of great pain in his head. More stools were procured, and twelve ounces of blood were taken from the temporal artery. He now took six grains of pulv. ipecac. comp. every four hours.

26th. He had been delirious during the former part of the night, but had slept toward the morning; in other respects he was much as before. In the evening, as his pulse would bear it, twelve ounces of blood were again taken away.

27th. Pulse softer and frequent. He had three stools from medicine in the evening. The delirium seemed to have a little subsided, and he was much inclined to sleep, so that it was difficult to obtain an answer from him.

28th. A blister was applied to his head, and in the evening his pulse becoming full,

ten ounces of blood were taken from him. Two grains of opium were given him at night.

29th. He had slept well but complained of his head, and of difficulty in swallowing, and in the evening had hemiplegia of the right side of his body.

30th. He had slept but little, the bowels lax, the pulse small and frequent, the hemiplegia continues.

We had thus far been endeavouring, by the most powerful means, to subdue a violent inflammation of the brain, and could scarcely be said to have accomplished our design, when a new affection called for attention. I think it can scarcely be doubted that the hemiplegia was the effect of pressure made by an effusion of fluids in consequence of inflammation, operating probably chiefly on the left hemisphere of the brain, so as to paralyze the opposite side of the body. Under this persuasion, and without expectation of success, I directed that two drachms, by measure, of strong mercurial

curial ointment should be rubbed in on his arms and legs night and morning, and that five grains of the pil. hydrarg. with one grain of opium, should be given three times a day. These means were continued for three days without any striking amendment being perceived, but on the fourth (Dec. 4.) he stretched out his right arm when required, and he was able to swallow without difficulty. As he was getting better, the same plan was persevered in till the 9th, when the mercury had affected his mouth, and produced a diarrhœa. He now knew all those persons who had attended him, and his state was surprisngly altered. During the inflammation of the brain he had been very unmanageable, and his replies and expressions were fierce and loud. Now he was extremely tractable, and wept whenever he was spoken to. His pulse was very feeble, and beat but 60 in a minute. It seems right to mention that a few days afterwards, when he was slowly recovering, one of the wounds of the temporal artery gave way, and he lost perhaps fourteen ounces of blood before it was perceived.

ceived. This circumstance of course made him weaker, and increased the frequency of his pulse, but it did not much impede his recovery, which, though very slow, was very perfect. Extensive sloughing of the integuments of the nates had taken place, which it does not seem requisite to mention, but inasmuch as it tends to shew the reduced state to which he was brought. Indeed if this patient had not possessed a vigorous constitution, it could not be expected that he would have survived the debility which this disease and the treatment conjointly produced.

The extent of the evacuations, that surgeons are obliged to make, in inflammations of vital organs is such, as would deter the unexperienced from pursuing them, and must astonish those who have employed them with success, that they could be borne with so little apparent injury. It can only be accounted for by considering the disease as the stimulus which keeps up the actions of the constitution under such exhausting measures, as would occasion them to sink but for this excitement.

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I have seen so many additional cases of concussion, so exactly corresponding to those formerly related, that I am more fully satisfied of the truth of the representation which has been given of them. I have in consequence been led more and more to wonder, that a contrary plan of treatment to that which has been so uniformly successful, could ever have been recommended, and to conjecture what cases could have occurred, in which such opposite practice must not have been strikingly prejudicial. Probably I may point out such cases; and as I do not find them described in books of surgery, because they have not been deemed sufficiently important, it may not be improper briefly to mention them.

A young lady was stooping in a closet, and rising up suddenly and forcibly she struck her head against a shelf. The blow occasioned extreme pain, but did not stun her. She went down stairs without mentioning the accident, and after sitting with her friends for a short time she fainted. As it was in the evening

evening she went to bed, but could not sleep for pain in her head, and the next day her pulse was very languid, and her extremities cold, she complained of great pain when the scalp was slightly touched, and said there was a sensation as if cold water was dropping on it. She took some gentle opening medicine, which relieved these symptoms, but she could not sit up for many days, and it was a considerable time before she recovered the languor, which the blow had occasioned: but neither fever, nor failure of sensation, or of intellect took place in the slightest degree. I have seen many similar cases, and in one the patient said his sensations were such as would induce him to believe that his brain was loose, and moving on the inside of the skull. All these cases were relieved by slight evacuations, as gently opening medicines, leeches, or cupping, though I am inclined to believe that a contrary plan of treatment, which has been recommended in concussion, might have been pursued without material detriment.

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I shall next relate a case, in which though the brain was not the immediate subject of the injury, yet it became affected in consequence of it, and I think the case deserves to be recorded, not only on account of several useful facts and hints relative to practice which it affords, but also because it may eventually tend to throw light on the economy and diseases of the brain.

C A S E.

A man was gored in the neck by a cow. The horn entered by the left side of the cricoid cartilage, and penetrated as far as the vertebræ; it then passed upwards on the bodies of those bones, nearly as high as the bottom of the skull, afterwards it came out behind the angle of the jaw, exposing and in some degree injuring the parotid gland in its passage, and lacerating the skin of the face as high as the middle of the ear. In its course it had passed beneath, and torn the internal carotid artery, and all the primary branches in front of the external carotid artery. The former vessel

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was not however entirely rent asunder, so that the general course of the artery and its connection with the cranium remained in the usual state. Notwithstanding the size of the vessels which had been torn, they did not immediately bleed; the wound was therefore closed and bound up. The blood was soon observed to flow in streams down the neck, nor could any general pressure upon the wound prevent hemorrhage. In this state the man was conveyed to St. Bartholomew's hospital, but he lost a large quantity of blood before his arrival.

The patient was laid upon a bed, and before the wound was opened, one of the students firmly compressed the trunk of the carotid artery, against the lower cervical vertebræ. We found upon the first inspection of the wound, that this pressure prevented any hemorrhage; yet upon the occasional motions of the patient, and upon accidental variations in the pressure made on the vessel, the blood gushed from the bottom of the wound so suddenly and in such quantities as
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to prevent any accurate examination. The man was very unquiet; he complained much of the pressure, and was greatly distressed by a sensation of suffocation, which compelled him constantly to attempt to expectorate. Under these circumstances our first endeavours were to tie the more superficial arteries, but the edges of the wound being lacerated, the first ligatures which we endeavoured to make tore away portions of the flesh, and did not secure the vessels.

The situation of the patient became every moment more desperate, he really seemed choking, his extremities became cold and his pulse was scarcely to be felt: his struggles also which could not be controlled, made the pressure on the trunk of the artery very precarious. It was deemed necessary to enlarge the wound to get at the trunk of the carotid artery, and an incision was made between that vessel and the trachea, in a direction parallel to each of these parts. I had now the power of passing my finger beneath the trunk of the carotid artery; and of effectually compressing

it between that finger, and my thumb which was placed opposite to it, upon the integuments of the neck.

I had now leisure to examine the wound with my other hand, and felt that the pharynx had been separated from the vertebræ of the neck, and had fallen against the larynx: its irritation on that organ was probably the cause of the sensation of suffocation which the patient suffered. There did not appear any reason to believe that the pharynx was wounded; for though the patient was constantly spitting, the mucus was not mixed with blood. Finding that the moment I remitted the pressure on the carotid, the blood gushed out from so many orifices and in such a torrent from the bottom of the wound, I resolved to pass a ligature round the trunk of the carotid at the part where I had been compressing it, and which was about an inch below its division. This ligature I thought might be made to serve as the tourniquet in amputation, for I could with it compress the artery so as to prevent the wounded parts

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becoming obscured by blood, and by slackening it I might gain information with regard to the situation of the ruptured vessels.

Should it become necessary at any time to tie the carotid artery, I am convinced that it may be done without much difficulty or danger, even without an accurate dissection of the part. If the incision be made on that side of the artery which is next the trachea, where no important parts can be injured, as was done in the present instance, the finger can then be passed behind the artery so as to compress it. The vessel being sufficiently bulky and firm, to make its form and outline distinctly perceptible, a needle may then be passed behind the artery, as near as possible to that edge of it which is next to the internal jugular vein, there can be little risk of wounding that vessel, or of including in the ligature the 8th pair of nerves which lies between them. In attempting to secure the carotid artery, I passed behind it in the manner described, a blunt hook with an eye in the point, and having previously introduced

a ligature into it, I drew back the instrument and thus enclosed the artery.

When I compressed the vessel by tightening the knot of the ligature, I did it slowly, and with a watchful attention to the sufferings of the patient; for I cannot but suppose that had the nerve of the 8th pair been included, his complaints would have sufficiently denoted that circumstance. But the compression of the ligature did not seem to make the least difference in the general state of the patient, whilst it completely prevented the further effusion of blood. With a knife and dissecting forceps I then exposed the lacerated vessels, and found that the primary branches of the external carotid artery had been torn off from the trunk. By drawing upwards the ligature which encircled the trunk of the artery, I made the internal carotid tense, so that its course and ruptured state could be distinctly felt. The ligature on the trunk was slackened, and the gush of blood further confirmed the laceration of the internal carotid artery. I had now the alternative of
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securing the ligature, which I had already made on the trunk of the vessel, or of tying the branches separately. I preferred the former, and it should be observed that the man had now lain ten minutes or more, without any blood being carried to the brain by the left carotid; and during that period he had recovered from his extreme faintness, appeared perfectly sensible, and as well as could be expected in a person, considering that he had lost so large a quantity of blood. The ligature being now made secure, the wound was brought together by stripes of plaister; and in this state warm milk was given to the patient to drink, in order to learn what would be the effect of his efforts to swallow, and to ascertain as far as possible, whether there was any wound in the pharynx or œsophagus. The patient swallowed about a quarter of a pint of this fluid with difficulty, and with the frequent excitement of coughing. No milk however came through the wound, and I concluded that all the difficulty of deglutition arose from the unnatural state in which the muscles of the pharynx were placed, in con-

sequence of their detachment from the vertebræ. These circumstances happened between 4 and 5 o'clock in the afternoon, and when I saw the patient again between 9 and 10, his state seemed greatly amended. He had several times taken warm milk, and the difficulty of deglutition had abated. His pulse was now moderately full and strong, and not very frequent. It therefore appeared that the apparently dying state of the man, which at one time had alarmed us, proceeded rather from the sudden discharge of blood, than from the quantity, however considerable, which had been lost. The patient also appeared tranquil, and perfectly rational, and though prevented from speaking much, he expressed himself satisfied in his situation.

On the whole I was led to form a favourable expectation of the progress of the case, as far as related to the effects which a ligature on one carotid would have on the economy of the brain. I was next morning mortified to learn that the patient had been unquiet, and feverish during the night, that
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he had become delirious, that he had been several times affected by slight convulsions, which had increased; and that when liquids were now given to him, they passed through the wound, and he could scarcely swallow any thing. The pulse of the patient was now about 130 in a minute, and hard, and his skin was hot. He lay inattentive to external objects, but probably not insensible, for the pupils of his eyes were contracted, and when the lids were opened in order to examine them, he shut them quickly, and as it were, impatiently. It had been remarked, that the left side of the body was more convulsed than the right.

As we had it not in our power easily to give medicine, I introduced a small hollow bougie through the right nostril into the œsophagus, and immediately injected half a pint of milk and water, and 60 drops of tincture of opium; that I might learn the effects of that medicine under the present circumstances. The patient shortly after broke out into a most profuse sweat, and the convulsions

convulsions were quieted by the opium. The convulsions when thus mitigated by opium, might be described as violent tremors of the left side of his body, but the right side remained motionless; to which curious fact I particularly attended. I placed his right arm across his breast, from which situation it did not afterwards stir. I could not however, perceive any distortion of the face to the opposite side, and the pupils of both eyes were equally contracted. When I saw the sweat break out on the taking of opium, and the nervous irritation diminished by its operation, I was then more forcibly struck than I had been before with the similarity of this patients situation, to that of a person suffering from the effects of concussion of the brain, some time after the accident, when the inflammation often succeeding to it, had begun to take place.

I even questioned if it might not be right to take blood from the temporal artery, which was seen beating violently. I thought however

ever the general opinion would be against such practice, and I only applied a blister to the head. Twenty drops of tincture of opium were directed to be given to the patient every third or fourth hour, with a view to mitigate the convulsions, which it appeared to do. Milk and water was also occasionally given, in proportion to the degree of perspiration. No remarkable change of symptoms took place, but the strength of the pulse gradually declined, and at 10 o'clock at night he had a severe convulsion fit, and immediately after died. His death happened about thirty hours after the ligature was made on the carotid artery.

The body was examined on the following day. The brain appeared to have suffered a considerable degree of inflammation. The vessels of the pia mater appeared as if they were injected, and in many places upon the surface of the convolutions of the cerebrum, there even seemed an effusion of blood producing that appearance usually termed blood-

shot. There was a very considerable deposition of gelatinous substance between the tunica arachnoidea, and the pia mater. The vessels passing through the substance of the brain, though fuller than common, were not particularly turgid. A considerable quantity of water of a light brown colour, and slightly turbid appearance was found in the ventricles, whilst the firmness of the sides of those cavities sufficiently indicated that the collection had not preceded the accident. On examining the neck, the carotid artery was found to be the only part included in the ligature. The superior thyroideal, lingual and facial branches of the external carotid, were torn off from the trunk, and the internal carotid was rent across, as has been already mentioned.

Neither the trunk of the 8th pair of nerves, nor the great sympathetic, nor those of the tongue, appeared to have suffered injury. The superior laryngeal, and the descending branch of the 9th pair were the chief nerves injured by the accident. These circumstances
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are mentioned to enable the reader to form his own judgment on the probability of the symptoms which occurred being produced by nervous injury or irritation.

That the disorder and death of this man is not to be attributed to the quantity of blood which he had lost, appears clearly to me, not only from the degree of plenitude and power of the vascular system which remained, but because I had seen many patients in the hospital, who had divided most of the primary branches of the external carotid artery in the attempt at suicide; and who after surviving a few days, perished in consequence of the loss of blood which they had sustained, but with a train of symptoms very different from those which occurred in the present instance.

Some persons may perhaps be inclined to attribute inflammations of the brain to nervous injury or irritation. I have taken notice of all the injury discoverable by dissection, and have further to observe that we frequently

frequently see larger nerves lacerated in wounds without the production of such symptoms, and the tranquil state of the patient till the inflammation of the brain came on, opposes such an idea. Upon reflection I can form no other opinion of the case than that which first struck me, which is, that though the stopping the supply of blood to the brain did not for several hours produce any apparent derangement in the functions of that organ, yet such a state was gradually occasioned by it, and which was attended like the effects of concussion of the brain, with inflammation. It further appeared, that when the combined effects resulting from the derangement, and the inflammation were manifested together, the state of the patient much resembled that of a person who had suffered concussion.

The different states of the two sides of the body ought not I think to pass without further notice. Although the right side could not be positively said to be paralytic, yet in my opinion it approached to that state.

It has been already observed, that a double construction might be put upon the symptoms, yet as the inflammation of the brain was equal on both sides, we might naturally expect the whole body to suffer equally. Should the state of the right side have been, as appears most probable, an approach to a state of paralysis, it would surely be considered as peculiarly curious. An effusion of blood in the left hemisphere of the brain would affect the opposite side of the body in the same manner, that cutting off the supply of blood to the left side appears in this instance to have done. I forbear to speculate on this subject, the fact which I have mentioned seems to deserve notice, and though at present it must stand alone, it may in future receive addition, and, when thus supported, be applied to some useful purpose in physiology.

I have thought it right to record this case, not merely because it is curious, but because it affords some useful practical hints, as to the conduct to be pursued when a person has divided the large primary branches of the
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carotid artery in an attempt at suicide. It may be allowable also to mention in relation to this latter subject, the great advantages which appear to me to arise from the immediate introduction of a small elastic catheter, passed through the right nostril, down the œsophagus, nearly as far as the stomach, in the manner practised by Deseault, in the cure of a person wounded by a pistol ball.

A patient in such a state is not under the necessity of frequently swallowing nourishment, which act tears open the wounded parts, and causes inflammations in them, and produces such a secretion of mucus as excites almost constant cough, increasing the disturbance of the wounded parts.

The introduction of a small elastic catheter may be easily accomplished in the first instance, though not without difficulty, after the sensibility of the parts have been increased by inflammation, and from the benefit I have seen derived from it I should not hesitate to do it in all cases of extensive wounds of the throat,

throat, where the larynx or trachea is divided, even though the pharynx and œsophagus may be uninjured. It seems to me also that a similar plan of conduct is very suitable to strictures of the œsophagus.

On Aneurism.

Since my last publication, I have a second time performed the operation of tying the external iliac artery. In this case the artery was tied with two ligatures and divided in the interval; it afterwards firmly united at each extremity, and the ligatures came away at the usual time: neither did there appear any deficiency in the nutrition of the limb. These circumstances afford reasonable expectations of success in future operations of this kind, yet in the present instance the operation appears to have been too long delayed, and the patient to have died from an event which was not foreseen, but which might perhaps have been prevented. I therefore think it right to state the circumstances of this case in the present publication.

C A S E.

——— Wrungel, a German, by trade a sugar-baker, of a sickly aspect and slender make, about 5 feet 7 inches high, and near 40 years of age, was admitted into St. Bartholomew's hospital, on account of an aneurism in the femoral artery, close to Poupart's ligament. This he imputed to a strain about three weeks before. The tumor at the time of admission was of the size of a small orange, and the blood contained in it was fluid; for it could be entirely expressed from the aneurismal sac. At a consultation on the treatment of the case, I said that I did not think a surgeon warranted in tying the external iliac artery, till he was in some measure compelled to it by the progress of the disease, for the following reasons. 1st. An aneurism, in proportion to its increase and duration, obstructs the passage of the blood through the natural and principal channels, and obliges it to circulate by other courses, which are enlarged according to the exigency of
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of the case. It seems highly probable, that in proportion to the size of the artery which is tied, and the magnitude of the part to be nourished after that operation, so will be the degree of previous enlargement in these collateral channels, which is necessary to ensure its success. On this account the operation should be delayed longer in an inguinal aneurism than in any other.

2dly. The operation of tying the external iliac artery must, in the present state of our knowledge, be considered as very serious in its nature, and uncertain in its event. I once tied this vessel when a man would otherwise have bled to death from the femoral artery; and though the limb was nourished, the artery ulcerated. The operation was done a second time in London, and the limb mortified; but no fair practical inference can, I am told, be drawn from the latter case, as the operation was postponed till mortification was as it were impending.

3dly. There is some chance in aneurisms of a cure spontaneously occurring from the

closure of the artery above by the coagulation of the blood. To cite those instances only which have come within my own knowledge, and which it seems right to mention, as it increases the stock of facts before the public; I have known such a spontaneous cure take place twice in the popliteal artery, once in the *arteria profunda femoris*, and once in the axillary artery. For these reasons it was agreed to postpone the operation in the case of the present patient till circumstances should appear to demand its performance.

Our poor patient therefore lay in the hospital during two months, in which time his disease gradually increased, and his health declined. Towards the latter part of the time he suffered a great deal of pain in the front of his thigh, which deprived him of rest, and the whole limb was largely œdematous. These symptoms would naturally arise from the pressure which the aneurism must make on the anterior nerves and absorbents of the thigh. The tumor had advanced towards the surface, and the skin had become slightly inflamed, yet the protruding part of
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the tumour was not of greater extent than when he was first admitted into the hospital, and no judgment could be formed of that part which was more deeply situated, on account of the general swelling of the thigh. The blood could even now be expressed from the prominent part of the tumour, and I felt anxious, lest the obstruction to the circulation in the main artery should not have been sufficient to have obliged the blood to circulate by other channels. It deserves to be remarked, that the aneurism may extend considerably beneath the fascia of the thigh, causing pain and œdema by its pressure, and yet that part which advances towards the surface may be of no great magnitude.

The patient's sufferings increased considerably during the week preceding the operation, so that he declared his present state was almost insupportable, and solicited that something might be done to change it either for the better or the worse. He never, however, was able to explain the cause of this uncommon degree of anxiety and inquietude.

The operation was undertaken on Saturday the 24th of October. An incision of three inches in length was made through the integuments of the abdomen, beginning a little above Poupart's ligament, and being continued upwards; it was more than half an inch on the outside of the upper part of the abdominal ring, to avoid the epigastric artery. The aponeurosis of the external oblique muscle being thus exposed, was next divided in the direction of the external wound. The lower part of the internal oblique muscle was thus uncovered, and the finger being introduced below the inferior margin of it and of the transversalis muscle, they were divided by the crooked bistoury for about one inch and a half. I now introduced my finger beneath the bag of the peritoneum, and carried it upwards by the side of the psoas muscle, so as to touch the artery about two inches above Poupart's ligament. I took care to disturb the peritoneum as little as possible, detaching it to no greater extent than would serve to admit my two fingers to touch the vessel. The pulsations of the artery

tery made it clearly distinguishable from the contiguous parts, but I could not get my finger round it with the facility which I expected. This was the only circumstance which caused any delay in the performance of the operation. After ineffectual trials to pass my finger beneath the artery, I was obliged to make a slight incision on either side of it, in the same manner as is necessary when it is taken up in the thigh, where the fascia which binds it down in its situation is strong. After this I found no difficulty in passing my forefinger beneath the artery, which I drew gently down, so as to see it behind the bag of the peritoneum. By means of an eyed probe two ligatures were conveyed round the vessel; one of these was carried upwards as far as the artery had been detached, and the other downwards: they were firmly tied, and the vessel was divided in the interspace between them. Nothing further remained than to close the external wound, which was done by one future, and some strips of sticking-plaster. The threads of the upper ligature were left out of the wound

above the future which closed its edges, and those of the lower beneath.

A few remarks on this operation may be permitted. To divide the parietes of the abdomen, push aside the peritoneum, and tie the external iliac artery by the side of the psoas muscle, is an operation more formidable in sound, and on its first proposition, than it is in reality. It is performed almost without shedding blood, so that the principal circumstances of it are very evident. When I formerly performed this operation, I was urged to it by immediate necessity: I tied the artery much higher than in the present case, disturbed the peritoneum in a greater degree, and, contrary to my own principles, I did not divide the artery. In the present case, having time to deliberate upon the steps of the operation, I detached merely so much of the peritoneum, as enabled me to reach the artery, as far as I conveniently could above Poupart's ligament; but not so far as to make it difficult to ascertain that I surrounded the artery only with my finger, without injuring
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any of the adjacent parts, nor so far but that I could draw down and distinguish the artery which I included in the ligature. The remembrance of the swelling in the external iliac glands, and of the ulceration of the artery in the former case, led to this difference of conduct.

The poor man was greatly exhausted by the operation, and his leg which had been chilled by exposure during the operation, continued very cold for a long time afterwards. It was wrapped up in flannels, to prevent the dissipation of its own heat; but I would not apply any artificial warmth to restore its temperature, lest it should act as a stimulant.

He could not compose himself after the operation, nor did he sleep during the night, so that on the following day his state was very unpromising. His pulse beat 160 in a minute, his tongue was covered by a dark brown fur; he looked agitated, and a purging took place, which was not restrained till the following night by a cordial and opiate mixture.

mixture. Respecting his pulse, it is proper to mention that it beat 120 most days in the week preceding the operation.

His thigh was as warm as that of the sound side, his leg cooler than the opposite one, and his foot many degrees colder. He had however perfect sensation in his toes, and power of moving them. The leg and foot were rubbed with oil three or four times a day, in order to prevent any stagnation in the veins, and to diminish perspiration. It was well covered as before by flannels.

On Monday, the 2d day (Oct. 26) the pulse was less frequent: he had slept a good deal during the night, and seemed stupified by opium; but on the whole so little better, that I concluded he would gradually sink in consequence of the shock of the operation. The temperature of the limb was a little increased. The man however took bread and milk and other food in moderate quantities, whenever it was offered to him: the purging having ceased, the quantity of the opiate was diminished.

minished. He rather improved in the evening, and rested well during the night; so that on (Oct. 27) the third day after that of the operation every circumstance wore a favourable aspect. His pulse did not exceed 100, and was moderately firm and full; his appetite had increased: the temperature of the limb was a good deal augmented, so that his foot was scarcely colder than that of the sound side; and the œdema of the limb was considerably diminished. I now dressed his wound, in which he had not complained of pain, nor of any tenderness, when the surrounding parts were compressed. The incision appeared but as a line, except at the neighbourhood of the ligatures, where it was a little open, and from whence there issued a moderate quantity of as healthy pus as I had ever seen. The surrounding parts were perfectly natural both in appearance and sensation. On the fourth day (Oct. 28) he was still better: his pulse 90; his appetite good; his sleep sound; and his limb lessening in size, and increasing in warmth. The students at the hospital had dressed the wound
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before my arrival, and reported that the discharge was tinged with blood.

On the fifth day (Oct. 29), he was still better, his pulse being but 80 when I counted it. The wound and contiguous parts looked remarkably well, but a bloody sanies was discharged, which I felt unable to account for.

On the sixth day (Oct. 30) the state of his health and limb continued as well, if not improving. The bloody discharge however had increased in quantity, insomuch that it ran through the coverings of the wound and soiled the bed; it had also become foetid. From the first occurrence of this bloody discharge I felt considerable uneasiness respecting it. I could not believe that an healthy wound would secrete such a sanies, and I felt apprehensive lest the wound should spread from disease. Nothing however took place to confirm this idea. It seemed probable also that if the aneurifinal sac were not entire, some of the blood being exposed to the air might tinge the discharge from the wound,

and grow putrid. I frequently pressed on the tumour, but could press no blood from the wound. In this state of uncertainty it was, however, pleasing to observe, that the patient's health continued in every respect better than could reasonably have been expected.

The circumstances of the case remained very much the same during the seventh and eighth days after the operation. On the morning of the ninth, (Nov. 2,) when I came to the hospital, I met Sir Charles Blicke, who told me that the poor German was dying; intelligence which equally surprised and shocked me.

He was indeed in a dreadful state, appearing like a man far advanced in typhus fever. His pulse was 150; his tongue covered with a brown fur; his intellect wavering, and the action of his muscles tremulous. On examining the wound, with a view to discover the cause of this great and sudden alteration, and pressing on the tumour beneath Poupart's ligament,

ligament, I forced out a great quantity of blood, rendered fluid and highly foetid by putrefaction, infomuch that it instantly blackened the probe with which it accidentally came in contact.

The cause and circumstances of the bloody discharge were now made clear ; the surface of the exposed coagulated blood of the aneurism had at first tinted the discharge from the wound, then had, by gradual dissolution, been more plentifully commixed with it, and given it a degree of putridity. Till, however, the whole mass had become putrid, and had been converted in consequence into fluid, it could not be forced out from beneath Poupart's ligament when pressure was made on the tumour ; nor did it till that period excite inflammation in the surrounding parts by its acrimony, or derange the constitution by its absorption.

After entirely expressing the putrid blood I washed out the cyst with warm water, till it returned untinged. The relief which was
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by these means afforded to the poor man was very striking and considerable. His pulse became moderate, his intellect clear; he had some refreshing sleep, and again took food in moderate quantities. On the following day, when the integuments beneath Poupart's ligament were compressed, a considerable quantity of foetid discharge and air were forced out. It was not however at all tinged with blood, and appeared to me to be merely the secretion from the cyst which had contained the blood. I directed that this discharge should be pressed out, the cavity syringed, and a poultice applied three times a day; but finding it still secreted in considerable quantity, I thought it right to make an opening into the cyst beneath Poupart's ligament, to afford it a more ready exit. No abatement in the quantity, or alteration in the quality, was however remarked; it seemed to be such as a sloughing sore commonly furnishes.

This fever came on on the evening of the eighth day (Nov. 1,) after that of the operation;

tion ; and I am convinced it would have speedily destroyed him had not the cause been detected and removed. The powers of his constitution rallied again ; his pulse was firm, and often not more than 100 ; he took sufficient food, and slept moderately well. But the part, as has been said, did not go on well, and seemed to prevent any increase of strength. For a week I was not without hopes that some favourable change might happen, but afterwards I lost all expectations, as his already much reduced powers were still further declining ; nevertheless, he held out more than another week, when he died on November 16, the twenty-third day after the operation. A few days before his death both ligatures came away with the dressings.

Dissection.

A very slight adhesion had taken place between the sigmoid flexure of the colon and that part of the peritoneum which was opposite to the wound, but there was no other appearance of that membrane, or of the bowels,

bowels, having suffered any inflammation in consequence of the operation. The peritoneum was separated from the loins, and from the posterior half of the left side of the diaphragm, by a considerable collection of blood, which extended below to Poupart's ligament, and communicated under that ligament by a small aperture with the aneurismal sac. This opening was situated in the direction of that crevice which is found between the internal iliac and psoas muscles. The only rational explanation that can be given of the formation of this collection is, that the blood had burst its way from the aneurismal sac in the vacancy between the muscles just mentioned; after which it would readily and extensively separate the peritoneum in the manner described. I am inclined to attribute to this circumstance the undefinable disturbance of health which the poor patient suffered during the week preceding the operation. It may, perhaps, excite surprise that this collection did not become putrid.

No particular account can be given of the aneurismal sac beneath Poupart's ligament,

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since it and the contiguous parts had sloughed in consequence of the irritation of the putrid blood. A small aperture had been made by this sloughing in the front of the orbicular ligament of the hip joint, and a small extent of the thigh bone was, by the same cause, deprived of its periosteum.

A bougie was passed from the lower end of the femoral artery into the sac.

The extremities of the external iliac artery, which had been divided in the operation, were united together by a fine new-formed substance; the sides of each extremity were perfectly closed, and a small plug of coagulated blood was found in each.

Having thus given as brief an account as I am able of the circumstances of this case, as they appeared to me, I cannot conclude without mentioning the observations of others, particularly as they may assist in suggesting rules of conduct for future operations on similar cases. It has been said that the irritation of the aneurismal bag was probably

probably a spontaneous occurrence, and not the effect of the acrimony of the putrid blood. But the suddenness of this attack, the manifest existence of a cause sufficient to produce it, and the total absence of such an occurrence in all other cases of aneurism, render this supposition highly improbable.

It has also been imagined that part of the discharged blood might have returned from the lower end of the artery. This latter opinion is very improbable, since, after the complete removal of the blood, none returned by that channel: and in a similar case which I formerly published, none returned by the inferior part of the artery, though the area of it was still of its natural dimensions, and unobstructed. This latter observation had tended to diminish my confidence in the powers of the communicating channels, and made me wish to defer the performance of the operation as long as possible. It seems evident that in the present instance it was too long delayed.

It would be desirable in future to perform the operation before an extensive diffusion of blood has taken place ; indeed, could the adequateness of the collateral arteries for the supply of the limb be established, it would be proper to operate before the artery has burst.

It deserves to be considered whether it might not be right at the time of the operation to open the aneurismal bag, and remove the blood. I should, however, be inclined to postpone this operation ; for, perhaps, no necessity might exist, as putrefaction might take place. A few days will determine the degree of life of the limb, and would make a wound less likely to ulcerate or slough. Should signs of the putrefaction of the blood ensue, or the probability of such an occurrence become evident, I should think it necessary to make a small opening into the aneurismal bag for the removal of the contained blood. This being done, if no blood came from the lower orifice of the artery, there would be no necessity for tying it. Such are the observations that have occurred to me on this subject ;

ject; I have laid both those and the facts before the public as early as possible, that medical men may judge of the circumstances of the case themselves, and form their opinions accordingly.

Although I have seen the method of tying the artery in the operation for the aneurism, which was recommended in my last publication, uniformly successful in a very considerable number of cases, yet I lately met with an unfortunate instance of hæmorrhage after that operation, which I deem it a duty to relate.

A lady had a femoral aneurism, which was so situated as to leave about three inches of the femoral artery between the part where the arteria profunda femoris is given off, and the disease. On cutting down on the inner edge of the sartorius muscle to the vessels in this situation, the pulsation of the artery was not felt, perhaps on account of the large quantity of fat in which it lay imbedded, and the want of any firm resistance behind. This circumstance made me doubt if the parts im-

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mediately

mediately beneath my finger were the vessels, and induced me to separate and disturb the contiguous parts more than I wished to have done. Having ascertained by such examination that the vessels could lie in no other place than immediately beneath the incision, and having divided the fascia which binds them down, one finger was put beneath the vessels, and the thumb upon them; the beating of the artery was then distinctly felt. A moderately thick double ligature was now introduced beneath the vessels, one part of which was carried up as high, and the other as low, as these vessels had been detached, and tied as firmly as it well could be. The vessels were divided in the interspace, at about two-thirds of the distance from the upper ligature, and one-third from the lower. Though the operation had been more tedious than any I had hitherto performed, and attended with more disturbance of the parts in the vicinity of the vessels, I entertained no doubt at the time but that the ligatures would remain on the vessels during the usual time, and that no ulceration

ulceration of them would take place. The wound was closed with sticking-plaster, and the patient put to bed. She complained of great pain in the wounded parts, and of extreme sickness, which produced frequent efforts to vomit. Fever came on and restlessness, which caused a constant variation of posture, so that the wounded parts were never suffered to remain at rest. These symptoms continued in a very violent degree for nearly twenty-four hours, and though they were then mitigated, they still continued in a considerable degree. On the third day the plasters were removed from the wound, the sides of which were in contact, but the surrounding parts were swollen, and had a dusky hue. On the evening of this day a violent hæmorrhage suddenly took place, and so much blood was lost that the patient did not long survive this occurrence. On opening the wound to discover the place from which the blood had flowed, and taking hold of the upper ligature, which I thought would direct me to the open artery, it was torn away, and brought with it some sloughy

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substance.

substance. There was no hæmorrhage at this time, and the state of the patient rendered it unnecessary to search for the artery: we therefore waited to see if the powers of the constitution would recover, but the faintness continued, and in about an hour she died. On the following day, the wound being examined, the whole surface of it was found in a sloughy and putrid state. The artery being slit downwards from the groin, was highly inflamed on its internal surface, and terminated by an orifice, which was of a pulpy feel, and had a sloughy appearance like the surface of the wound. I concluded from these circumstances that the artery had burst immediately above the ligature, in consequence of its becoming sloughy at that part; but I cannot take upon me to say that this was actually the case, as the ligature had been removed when the wound was opened to examine from whence the hæmorrhage had proceeded. The only rational explanation which I can form of this case is, that from a peculiar irritability of constitution the patient was unusually affected by an

operation which would ordinarily have been borne without any prejudicial derangement of health, and that the constitution and the parts were disturbed in such a manner as terminated in the sloughing of the wound, and in that of the artery immediately above the place where it was tied.

On the Operation of puncturing the urinary Bladder.

Mr. Home, to whom the profession is much indebted for many important improvements in practice, has of late published some cases of the puncture of the bladder from the rectum, which, in my opinion, are of the greatest importance. They not only exhibit that operation as more simple and successful than perhaps was generally believed, but if the operation be as successful in the hands of other surgeons, it presents an easy mode of relief to a great number of unfortunate patients who have generally been left to die in misery. I mean those who have strictures impassable by bougies, and who are so irritable that they cannot bear their destruction by caustic, on account of the retention of
urine

urine which it occasions. In such cases the puncture from the rectum appears most eligible where the bladder is contracted, as it perhaps will then scarcely ascend high enough to admit of being punctured above the pubes.

But there are cases in which the operation by the rectum cannot be performed, and by frequently meeting with these I have been compelled to puncture the bladder above the os pubis, and the event of the operation has been such as would have led me to prefer it to any other that I had seen practised. The chief cases to which I allude are those of enlarged prostates, where the catheter has been forced into the substance of the gland, and has torn it considerably; consequently that instrument enters so easily into the false passage as to render it almost impossible to make it take the right one. Indeed in cases of stricture, where false passages have been made, and the prostate has been found, the perception of the bladder from the rectum has been so indistinct that I have been deterred from puncturing it, and in one case I made a division in the perinæum, and
having

having passed my finger beneath the arch of the os pubis a considerable way, I could obtain no such distinct perception of the bladder as would authorise me to push in a trochar. But I punctured it above the os pubis, and drew off a considerable quantity of urine. I have therefore been led to conclude that, in some distended bladders, there is a kind of recession of them from the perinæum, and that when they become distended they ascend proportionally higher into the abdomen.

In the greater number of cases in which I have punctured the bladder above the os pubis, it has been on a sudden call to the hospital, or some poor house; and I have had little further concern with the patient than what related to the performance of the operation.

Sometimes I have been in doubt if there was much urine in the bladder, and this circumstance has deterred me from puncturing, except in that situation in which I could possess an assurance that I felt the bladder, and
could

could puncture that viscus: and these doubts caused me in some instances to puncture the bladder with a lancet; and in some cases I have not left any canula in the bladder, in consequence of the escape of the urine preventing me from readily finding the opening, which I had made. Several of the patients died, but in every instance the operation relieved their sufferings; and I have never seen any effusion of urine into the cellular substance, or any other bad consequence result from the operation; nor do I think that such events are likely to happen, if it be rightly performed. The death of the patients was fairly to be imputed to the delay of the operation, or to the degree of disease which previously existed in the urinary organs. In several patients who recovered, the progress of their amendment was similar to that which took place in the case, which I am about to relate. I did not however preserve any detailed account of them, for as I have mentioned, the patients could scarcely be said to be under my care. I have requested the last gentleman, with whom I attended a patient
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under these circumstances, to give me a particular account of his case, and on the accuracy of his narrative I can place perfect reliance. This case I shall relate, in order to have an opportunity of commenting on the mode of puncturing the bladder above the os pubis.

A gentleman between sixty and seventy years of age had a retention of urine from an enlarged prostate gland, which obliged his surgeon to draw off the urine night and morning. This was done during ten days, when the difficulty of introducing the catheter, which had gradually increased, became insurmountable. I was therefore obliged to puncture the bladder, and the only place in which this operation could in the present instance be performed, was above the pubes. I therefore made an incision about two inches in length through the integuments, and between the muscoli pyramidales abdominis, so that the lower part of the wound laid bare the top of the symphysis pubis. On introducing my finger into this vacancy I felt the distended bladder. The sensation produced
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by pressing against the distended bladder is I think so peculiar, and so different from any thing else which could occur in this situation, that if an operator has once felt it, he will not hesitate in deciding that it is the bladder against which he presses. The thickness and tension of its coats, and its fluid contents are the chief circumstances from which this peculiar feel seems to arise. When I first began to perform this operation, I was deterred from using a trochar by a fear of being misled by my sensations. I cautiously punctured the bladder with a lancet, designing to introduce a catheter through the wound; but the urine gushed out so violently, and the bladder became contracted so suddenly, that I could not discover the wound which I had made; yet under these circumstances, the urine passed from the aperture in the bladder, through the external wound, and was not effused into the cellular substance. Indeed neither observation nor reasoning would induce me to suppose that such an occurrence is probable, whilst there is a free external opening. The apprehension

tion seems to have arisen from the extensive diffusion of urine, in cases where the urethra has given way. But in such cases, the urine is actually injected into the cellular substance, and with great force by the bladder, in consequence of the channel out of the body being closed up. If the external wound in this operation were to be closed, and the exit of urine prevented by this means, then it is probable that the urine would be forced to pervade the cellular substance. It may be asked, according to the common phrase, if urine is likely to insinuate itself into the surrounding cellular substance? I should think not. The operator should be cautious not to make any separation of the bladder from the back part of the symphysis pubis, that there should not be even a cavity, into which the urine might gravitate. He should also leave the external wound free and open. The first effect of the operation will be an inflammation, which will consolidate the surrounding cellular substance, and prevent the ready impulsion of urine into it. The stimulating qualities of the urine will augment this inflammation,

flammation, and thereby increase the effect. Indeed the stimulus of the urine often occasions a sloughing of the surface of the wound, which however makes no alteration in the general circumstances of the case. In later operations I acquired more confidence, and a belief that I could distinguish the bladder from any thing else by its feel; and one case which occurred tended further to embolden me in this operation. Being called on a sudden to relieve a patient, who had had his urethra lacerated, and being urged to puncture the bladder by several gentlemen who were present, and who were certain that a considerable quantity of urine was detained: though I could not feel the bladder distended above the pubes, I consented, as the patient was in imminent danger, to perform the operation, and having punctured the bladder with a trochar, four or five ounces only of urine were discharged. However a large quantity of urine gradually flowed through a canula which was introduced. The patient died, and was examined, when the cause of this occurrence became apparent. A large
cyst

cyst made by the protrusion of the internal coat of the bladder, had been formed between the bladder and the rectum, which contained the greatest quantity of the retained urine. The orifice, by which this cyst communicated with the bladder, did not exceed in dimensions the barrel of a common quill. It also appeared that, though the bladder itself could not in this case be said to have been distended, yet the front of it only was wounded by the trochar, and the back part was uninjured.

To return from this digression to the operation in the case which I was relating: after I had, by an incision between the pyramidales muscles, enabled myself to pass my finger along the upper part of the symphysis pubis, so as to press against the distended bladder, I introduced a common trochar of the middle size, in a direction obliquely downwards. There is an advantage, as Sabatier, in his *Medicine Operatoire* observes, in introducing an instrument in this direction, for it accords with the axis of the bladder, and is therefore not

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likely to injure the opposite side of that organ. When I found that the instrument had penetrated the cavity, I withdrew the filet within the canula, and then pushed the canula obliquely downwards, so that about two inches of it were introduced into the bladder. On withdrawing the filet of the trochar, the urine gushed out with great force, but I prevented its escape, by placing the thumb of my left hand against the mouth of the canula, and then introduced through it in the same oblique direction, a middle sized hollow elastic catheter, till it met with resistance by touching the bottom of the bladder. After the urine was discharged, the canula of the trochar was withdrawn over the elastic catheter, which was left in its situation, and the end which came out of the wound was bent downwards towards the pubes, and attached, so as to be kept motionless, to a circular bandage put round the body of the patient. The wound, which was funnel-shaped, being wide externally, and gradually contracting to the bladder, was covered with linen, spread over with spermaceti salve. The urine

flowed

flowed not only through the catheter, but by the sides of it. A slight inflammation occurred round the wound, such as would doubtless tend to consolidate the surrounding cellular substance. The surface of the wound in this case did not even slough, at least in any evident degree. Four days after the operation the patient got up, and walked about his chamber, and feeling himself comfortable and well, he did not go to bed again till night. At the end of a week some few drops of urine came through the urethra, and the quantity thus discharged daily increased. At this time as the catheter seemed to be clogged up with mucus, it was withdrawn, and another was introduced with perfect facility. In about three weeks, as the urine came pretty freely through the urethra, the catheter was withdrawn, and the patient voided his urine by the natural channel. In six weeks the external wound was perfectly healed, and the patient was as well as before the retention of urine took place.

On the Tic Douloureux.

As the public attention has been of late excited to that painful affection of the nerves, called Tic douloureux, I shall in the next place relate a case of that disease, which lately came under my care, because it seems to me, to elucidate the nature of the disorder, to demonstrate the degree and kind of advantage which is likely to result from the division of the trunk of the nerve, and also to explain some circumstances in the anatomy and physiology of the nervous system, of which I have not as yet met with any satisfactory explanation.

C A S E.

A lady became gradually affected with a painful state of the integuments under and adjoining to the inner edge of the nail of the ring finger of the left hand. No injury to the part was remembered which could have brought on this disease. The pain occurred at irregular intervals, and was extremely severe during the time of its continuance, which was for a day or two, when it usually abated.

abated. Accidental slight injuries always occasioned great pain, and frequently brought on those paroxysms, which however occasionally occurred spontaneously, or without any evident exciting cause. In all these particulars the disease correctly resembled the *tic douloureux* of the nerves of the face. As the pain increased the disorder seemed to extend up the nerves of the arm. After the patient had endured this painful affection for seven years, she submitted to have the skin, which was the original seat of the disorder, burned with caustic. This application gave her intense pain, and on the healing of the wound she found her sufferings rather augmented than diminished by this experiment. After four more years of suffering she consulted me, when the circumstances of the case were such as to render an operation indispensably necessary. The pain of the part was intolerable, and it extended all up the nerves of the arm; and this general pain was so constant during the night, as to deprive the patient of rest. The muscles of the back of the neck were occa-

sionally affected with spasms. The integuments of the affected arm were much hotter than those of the opposite side, and sometimes the temperature was so increased as to cause a burning sensation in them. Under these circumstances I did not hesitate to divide the nerve of the finger, from which all this disorder seemed to originate. I laid it bare by a longitudinal incision of about three quarters of an inch in length, from the second joint of the finger, and divided it opposite to that joint, by a curved sharp pointed bistoury which was conveyed under it. I then took hold of the nerve with a pair of forceps, and reflecting it downwards, I removed a portion of it half an inch in length, that the possibility of a quick reunion might be prevented. The wound was brought together by sticking plaster, and it united by adhesion: but the upper part of the wound, opposite to the upper end of the nerve, became slightly inflamed, and was very painful; however the appearance of inflammation gradually went off in the course of three weeks. After the operation I pinched the
originally

originally affected integuments sharply with my nails, without causing any sensation; but if in so doing I moved the finger, then pain was felt. I found it difficult to convince the patient that the skin at that part was actually devoid of sensation, for she still continued to feel similar sensations to those which formerly occurred, though in a much diminished degree: but she became gradually as perfectly convinced as any medical man could be, that these sensations arose from the irritated state of the end of the nerve, above the place where it was divided. The painful affection of the nerves of the arm still continued, though considerably lessened in violence; however it was sufficiently severe to make the patient apprehend that little permanent benefit would arise from the operation. This pain continued occasionally about four months, with varying degrees of severity, but the temperature of the skin was not hotter than that of the opposite side, as it had been before the operation. At the expiration of three months, the patient ascertained that the integuments at the end of the finger actually felt when any thing was applied to them, and this proved

a new source of alarm. More than nine months have now elapsed since the performance of the operation, and the general pains in the nerves have become very trivial; but the sensation of the integuments at the end of the finger, has during that time gradually increased, and the skin has now its natural sensibility, so as accurately to distinguish the tangible properties of any body applied to it. If also the originally affected part be compressed slightly, painful sensations resembling those which formerly occurred, take place.

The observations of Dr. Darwin relative to ocular Spectra, and the experiments of Mr. Home on the contraction of divided nerves (contained in the Croonian Lecture, inserted in the Philosophical Transactions for the year 1801) have given a kind of demonstration that there is a subtle and mobile matter superadded to the visible fabric of nerves, and sanction the use of the yet novel terms of the irritability and irritable actions of nerves, and I shall therefore employ them the few subsequent remarks which I have to offer.

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The case above related, appeared to me to merit publication, because I believe it is a rare occurrence for the *tic douloureux* to happen any where but in the face. In the instances related by Mr. Home in his Croonian lecture, the disease was the effect of an injury done to the thumb, and it is reasonable to suppose that it would not have taken place without a predisposition to it in the constitution of the patients. It is also not unfair to conclude that the disease thus occasioned, was of a more general nature, and less confined to the extreme branches of the nerves, and therefore less susceptible of cure by an operation. The case, which I have related shews, as indeed might have been concluded *à priori*, that though the source of the irritable state of the nerves in the *tic douloureux*, may be cut off by an operation, yet that the general irritable actions of those organs, which had been excited, and had continued for a long time, would not immediately cease, though they might, as happened in this instance, gradually subside.

The speedy return of sensation, which is both accurate and acute in the present case, must surely be deemed a curious circumstance. It cannot be attributed to a reunion of the divided nerve, since so large a portion of it was removed; for I believe in simple divisions of the nerves by accident, sensation is slow in returning. It must I think be admitted that sensation in the present instance takes place through the medium of the communicating branches of those organs, and probably its speedy renovation was the effect of their unusually active or irritable state.

Nerves strikingly resemble arteries in their modes of communication, sometimes they conjoin even by considerable branches, such as must be manifest, in common dissections; but they communicate in surprising numbers by their minute ramifications. This circumstance is not perhaps so familiarly known to professional men, since it cannot be perceived unless in the course of a very minute dissection, and to understand how numerous these communications are, the representations given
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by the German authors, of their delicate and laborious dissections, may be advantageously consulted*.

The communications of nerves seem also not to have excited much attention amongst physiologists; at least I have not met with any probable conjecture concerning their use. I shall therefore take the liberty of mentioning as briefly as possible, what has occurred to me on that subject.

The opinions of Mr. Hunter respecting a subtle matter inhering in the brain and nerves, and diffused throughout the body, are I believe generally admitted, though variously expressed. Now if the brain and nerves be supposed in those animals who possess them, to be the chief if not the sole organs for the preparation of this subtle matter, then it appears as necessary that the nerves should communicate, as that the arteries should do

* See Meckel's Representation of the Nerves of the Face, or Frotfcher's of the Cervical Nerves, in Ludwig's Opera Minora, or Walther's Plates.

so. For if the continuity of the trunk of either of these organs were destroyed, the parts which its branches supply, would perish were it not for their communication with the minute branches of other adjacent trunks. It is probable that one of the advantages derived from important organs being supplied from plexuses of nerves is, as has been suggested by Soemmerring, that such essential organs should never want that animation and influence, which they derive from the nerves, even should casual obstruction take place in some of the trunks leading to such a plexus. But parts less essential to life, equally require that such interruption of the nervous energy should be guarded against. Have we not a plexus formed in the axilla, prior to the distribution of nerves, to the upper extremities? do not the sacral nerves form a plexus, in order to form the ischiadic or posterior crural nerve? and may not the same circumstance be affirmed with respect to the anterior crural, and obturator nerves, since they arise from the complicated union of the lumbar nerves, with a branch of the first sacral nerve?

These

These communications of the nerves may not only serve the purpose which has been suggested, but, as appears from the present case, the actions which take place in the extremities of the nerves may, by them, be propagated to the sensorium, and thus produce sensation. Whether, in the present instance, the original painful actions of the extremities of the nerves may again recur, and be continued throughout the communicating branches to the sensorium, the future progress of the case will determine.

On the Removal of loose Substances from the Knee Joint.

I shall next relate a case in which some of those loose substances that are frequently found in the knee-joint were removed by an operation; because I think the case contains many interesting particulars, and because it will afford me an opportunity of offering a few observations on the necessity and mode of performing such an operation. Mr. Cruik-

shank

Shank has given an account of Mr. Hunter's practice in these cases, but without a detail of particulars, and there is not, I believe, any detailed account of such an operation before the public, except that which is related by Mr. Ford, in the sixth volume of the London Medical Observations and Inquiries. Mr. Hey has of late recommended a bandage to keep these bodies stationary, and has related several instances of its efficacy, and of course of its preventing the necessity of undertaking a serious and uncertain operation. When loose substances exist in the knee-joint, and are lodged on either side of the patella, they produce but little inconvenience; but when they slip under the ligament of the patella, and become interposed between the condyles of the os femoris and the tibia, they impede progression, and cause pain, and so much injury as to bring on inflammation in the joint. If the extensor tendons, the patella and its ligament, can, by Mr. Hey's bandage, be kept steadily pressed against the corresponding parts of the joint, then these
bodies

bodies must remain stationary on one or other side of the patella, and the patient will be exempted from the inconvenience and injury which their motion in the joint occasions. Under these circumstances the necessity for an operation is obviated; but in the case which I am about to relate the bandage was of no avail, for reasons which will appear in the relation. It is not improbable also that though these bodies may occasion much irritation at first, yet that the joint becoming accustomed to their stimulus may afterwards be less affected by their presence, which circumstance ought to be adverted to and ascertained before an operation be undertaken.

C A S E.

A man, about forty years of age, having fallen from a ladder, and injured his knee, suffered afterwards a good deal from inflammation in the joint. The joint became much better, but never perfectly recovered; and after a year had elapsed he slipped in walking, and again injured his knee. From this time he became sensible of the presence of

two moveable bodies in the joint, which incommoded him considerably. They frequently, in walking, got between the condyles of the os femoris, and the crucial ligaments, giving him great pain at the time, and produced heat and inflammation of the knee afterwards. He bore this inconvenience for several years, till at length, coming to London, he resolved to submit to the operation for their removal if it were recommended. When I saw him there was a considerable quantity of synovia in the joint, the knee was hotter than that of the opposite limb, and in this state he said it usually was. There was no difficulty in bringing the two loose substances to the inner side of the joint; it required only to put that part in a depending position, and those bodies descended by their gravity through the fluid, and were easily fixed in the situation to which they had fallen. I could bring them on the inner surface of the internal condyle of the os femoris, which is of considerable extent, and by placing the points of my fingers so as to describe a portion of a circle, I could prevent them from passing again into the cavity of

the joint, although the limb might be moved, and the patient prefs firmly againſt them with his finger, as if he meant to puſh them into the joint. Yet when my fingers, which thus confined them were removed, the ſlighteſt touch cauſed them to diſappear, and to glide with velocity into the general cavity of the joint.

This is the ſituation, and the manner in which I think theſe bodies can be moſt conveniently and certainly fixed. The inner ſurface of the internal condyle of the os femoris preſents an extenſive and nearly plain ſurface, which terminates in front and at its upper part by an edge which forms a portion of a circle. If the points of the finger be firmly preſſed upon this edge ſo as to form a kind of line of circumvallation round theſe bodies, they cannot paſs into the joint in this direction, nor can they recede in any other, on account of the tenſe ſtate of the internal lateral ligament. Here theſe ſubſtances are near the ſurface, and may be diſtinctly felt; and there is nothing to be divided in order to expoſe them, but the integuments, fascia, and the capſule of the joint.

Mr. Cruikshank says, that Mr. Hunter preferred removing these loose bodies at the upper part of the joint, as there, the bag which contains the synovia has less of the nature of a capsule. Mr. Ford, in a case which required the operation (and which is related in the Medical Observations and Inquiries), extracted the substance on the outer edge of the patella; and if the substance is large, it may undoubtedly be extracted in this situation. In the case, which I am going to relate, it would have been impossible to fix the loose substances in any other situation than that, which I have described, and in my opinion that situation must in every case be preferable to any other, for the reasons which I have mentioned.

I did not hesitate to undertake the removal of the bodies in the present case, as they could be so securely fixed. For the patient had tried bandages without any advantage, which perhaps was owing to the quantity of fluid in the joint preventing them from acting in the manner mentioned above. His sufferings were very considerable, and the necessary

necessary restriction in exercise extremely inconvenient. I thought it right to reduce the inflammation of the joint as much as possible, prior to the operation, and with this view directed the application of leeches, and of linen kept constantly damp with Goulard's wash: some aperient medicine was also given. By these means, in the course of three days, all the fluid was removed from the joint, and it was as cool, and free from pain and inflammation as the other knee; but when I endeavoured to get these bodies into the situations in which I had formerly fixed them, I found all my efforts were in vain. There was no fluid for them to descend through, and though one of them could be got into the situation which we wished, we could not, after trying nearly an hour and an half, succeed in getting both of them upon the condyle of the os femoris. I was therefore obliged to let the patient walk about a little, that some more fluid might be effused into the joint, and then I could bring them both into the same situation, and fix them as readily as before.

The operation was done in the following manner. Sir Charles Blicke, who assisted me, pressed the integuments of the knee, gently towards the internal condyle, and then applied his fingers in the manner I have described, round the circular edge of the bone. I also drew the integuments gently towards the inner ham-string, and divided them longitudinally, immediately over the loose substance, to the extent of an inch and an half. This withdrawing of the integuments from their natural situation was designed to prevent a direct correspondence in the situation of the external wound, and that of the capsule of the joint; for when the integuments were suffered to regain their natural position, the wound in them was nearer to the patella, than the wound which was made in the capsule. The fascia which covers the joint being exposed by the division of the integuments, it was divided in a similar direction, and nearly to the same extent. The capsule was now laid bare, and I gently divided it to the extent of half an inch, where it covered one of the hard substances, which suddenly slipped through the
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the opening, and by pressing gently upon the other, it also came through at the same part. The bodies which were thus removed, were about three quarters of an inch in length, and half an inch in breadth. They had a highly polished surface, and were hard like cartilage. The fluid contained in the joint was pressed toward the wound, and about two ounces of synovia were discharged. I then drew the wound of the integuments gently towards the patella, pressed the two sides together, and closed it accurately with sticking plaster, enjoining the patient to keep the limb as free from motion as possible.

No inflammation took place in the knee, either on that day, or the following; but on the second night after the operation the patient suffered a good deal of pain, and in the morning the joint felt hot, and was distended with fluid as it had been before the operation. I now removed the dressings, and found the wound was closed; but I felt very apprehensive lest the inflammation of the joint continuing, the collection of fluid should also increase,

increase, and by distending the capsule, cause the wound to open. Having already seen in this case the beneficial effects of evaporating washes, which by diminishing the heat of a part check its tendency to inflammation, I was desirous of re-applying them. In order to prevent these applications from loosening the sticking-plaster, and causing the exposure of the wound, I made use of an expedient, which I have frequently employed, and which from its utility I think deserves to be mentioned. After having supported the sides of the wound in their situation by adhesive plasters as at first, I put over them a piece of linen which extended beyond them in every direction. This linen was made to adhere to the surrounding skin, by smearing over the edge with a solution of sealing-wax in alcohol, and afterwards varnishing the linen over with the same solution. The alcohol having evaporated, and the sealing-wax remaining, no liquid could penetrate and detach the sticking-plaster. This is the same varnish with which some parts of electrical machines are coated, and its power of re-
maining

maining unaffected by moisture and moderate warmth is well known.

Folded linen kept damp with laudanum and water was now applied, in the proportion of an ounce of the former to a quart of the latter. This wash I prefer, for the purpose above mentioned, to Goulard's wash; for the precipitated powder contained in the latter is apt to fill the interstices of the linen, and prevent its imbibing the wash, so that the requisite evaporation does not go on. These applications quickly diminished the heat of the knee, and the quantity of fluid contained in the joint speedily decreased. The wound was daily dressed, and in a week was firmly healed; and in a fortnight the patient might be said to be well. He has since the operation walked as much as he was accustomed to do, and has not found the least inconvenience.

F I N I S.



SURGICAL
OBSERVATIONS.

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SURGICAL OBSERVATIONS,

PART THE SECOND :

CONTAINING,

AN ACCOUNT OF THE

DISORDERS OF THE HEALTH IN GENERAL,

AND OF THE

DIGESTIVE ORGANS IN PARTICULAR,

WHICH ACCOMPANY LOCAL DISEASES, AND

OBSTRUCT THEIR CURE :—

OBSERVATIONS ON

DISEASES OF THE URETHRA,

PARTICULARLY OF THAT PART WHICH IS SURROUNDED

BY THE PROSTATE GLAND :—

AND, OBSERVATIONS

RELATIVE TO THE TREATMENT OF

ONE SPECIES OF THE *NÆVI MATERNI*.

BY JOHN ABERNETHY, F. R. S.

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AND TEACHER OF ANATOMY AND SURGERY.

*“Chirurgo necessariam esse cognitionem Physicæ, Chimiæ, Logicæ,
“omnis (fere) ambitus Medicinæ; neque solo manus exercitio veros
“chirurgos fieri.”* HERM. BOERHAAV. Method. Stud. Med.
locupletata ab Alb. von Haller.

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P R E F A C E.

IT is now nearly seven years since Mr. BOODLE, of Ongar, in Essex, told me that, in his opinion, many nervous diseases, and many pulmonary affections, originate in a disorder of the Liver. He regretted his inability to investigate the subject by dissection, and urged me to endeavour to ascertain, by that method, how far his ideas were well founded, or otherwise. The result of these enquiries is related at the conclusion of the first paper in this volume.

Having

Having thus been led to pay attention to disorders of the digestive organs, and their connexion with other diseases, in the relation of cause or effect; the importance of the investigation in which I had engaged gradually increased in my estimation. I soon perceived that the subject was of the highest consequence in the practice of surgery; for local diseases disturb the functions of the digestive organs; and, conversely, a deranged state of those organs, either occurring in consequence of such sympathy, or existing primarily as an original disease, materially affects the progress of local complaints. The facts which I have collected, and the observations which I have made relative to these subjects, will be found in the subsequent paper. It seems to be the duty of every one to promulgate any useful facts which he may possess, relating to an important subject, in order to excite general attention to it; by which the knowledge of that subject is likely to obtain the greatest and most rapid increase.

increase. Influenced by this consideration, and believing that the facts which I have collected merit attention, I submit them to the judgment of the publick.

It is no more than justice to state, that opinions of a similar kind, with respect to the influence of the hepatic function on various forms of disease, have, for some years past, been delivered by Dr. CURRY, Physician to Guy's Hospital, in his lectures upon the Theory and Practice of Medicine; and that our surprise was mutual, at finding such coincidence of sentiment upon a subject hitherto so little adverted to. Until Dr. Curry, however, shall lay the result of his labours before the publick, which he is now preparing to do, it is impossible to say how far our ideas may correspond in the detail; but when two persons begin an investigation with principles nearly similar, it is not, perhaps, unreasonable
to

to expect, that the facts which they collect, and the observations which they make, though in different lines of the profession, will be found mutually to support and illustrate each other.

On those Disorders of the System in general, and of the digestive Organs in particular, which accompany local Diseases, and which, whether they be sympathetic or idiopathic, considerably obstruct the Cure of these Diseases.

AN evil seems to me to have arisen from the artificial division of the healing art into the medical and surgical departments. This division has caused the attention of the physician and surgeon to be too exclusively directed to those diseases, which custom has arbitrarily allotted to their care. The effects of local disorders upon the constitution have, in consequence, been too little attended to; and indeed I know of no book, to which I can refer a surgical student for a satisfactory account of those febrile and nervous affections, which local disease produces, except that of

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Mr.

Mr. Hunter*. The reciprocal operation of constitutional disorders upon local diseases has obtained still less attention. To investigate more particularly some parts of these subjects, and to bring them forwards to public notice, are the proposed objects of the present paper.

No part of the animal body can be very considerably disordered, without occasioning a correspondent derangement of the whole constitution. Such disorder has been considered by Mr. Hunter as the result of universal sympathy. This consent of the whole constitution with its parts, manifests itself, in particular instances, by a greater disturbance of the functions of some organs than of others; and from this circumstance these diseases have derived the appellations, by which they are commonly distinguished. If the actions of the sanguiferous system be principally disturbed, and the temperature of the body subject to unnatural variations, the disease is termed fever: if the nervous system be chiefly

* Treatise on the Blood, Inflammation, &c.

affected,

affected, a state of vigilance or of delirium may be produced: convulsions and tetanus take place when the muscular system is more particularly disordered. Though the especial disorder of particular organs thus gives a character and denomination to the disease, it is sufficiently evident, in every instance, that the whole constitution is disturbed, and that parts of it are chiefly affected, perhaps from unknown circumstances relative to the nervous system, or it may be from a predisposition to disorder existing in the parts, which are chiefly affected. It seems to be ascertained, that persons of particular constitutions are predisposed to those febrile actions of the sanguiferous system, which constitute the inflammatory fever; that there is a propensity to convulsions in children, and to tetanus in the inhabitants of warm climates.

It may be a fit subject for enquiry, whether it be possible for particular organs to become affected otherwise, than through the medium of the nervous system in general. Though some instances of sympathy are strange, and

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perhaps

perhaps inexplicable, it must, I think, be admitted, that the inflammatory fever, the state of vigilance and delirium, convulsions and tetanus, which arise in consequence of injuries of the limbs, are produced by irritation imparted to the brain, which, by a kind of reflected operation, occasions a greater disorder of some organs than of others, and thus gives a character and denomination to the disease.

That the stomach and bowels are disordered by injuries and diseases of parts of the body, has been remarked by various persons; but the subject has never been extensively surveyed, nor viewed with that accuracy of observation, which its high importance merits. It has been observed that sprains of tendinous or ligamentous parts produce sudden sickness; and Mr. Hunter has attributed that shivering which is consequent to accidents, and attendant on some diseases, to the state of the stomach. It is also known that, in some local injuries from accident or operations, the stomach has appeared to be the part principally affected. But these remarks have been made only in a
curfory

curfory manner; and it is my intention to examine the fubject more particularly. The connexion of local difeafes with the ftate of the conftitution in general alfo appears to me either not fufficiently underftood or not duly regarded by the generality of practitioners; and to this fubject I alfo mean to claim their particular attention. I fhall in the firft place felect two cafes to fhew how the ftomach and bowels, or, to fpeak yet more extenfively, the digestive organs may be affected from local diforder.

C A S E.

A healthy gentleman, about twenty-five years of age, was induced to fubmit to an operation for the return of an adherent omental hernia, rather in order to remove the inconvenience and apprehenfion which the diforder occafioned, than from any urgent neceffity; for any increafed exertion in walking or riding produced the defcent of a portion of intefine behind the thickened omentum, and obliged him to ftop, and replace it: and
 he

he frequently could not accomplish the reduction without considerable difficulty. The application of trusses had been quite ineffectual in obviating these alarming inconveniencies.

The patient's diet on the day preceding the operation was scanty, and consisted of fluid substances. He took on the morning of the operation some Epsom salts and manna, which operated twice, and seemed to have emptied his bowels. A portion of the omentum was cut off, and the remainder was returned after two vessels had been tied. The operation was followed by general disorder of the constitution, manifested by a full and strong pulse, furred tongue, great anxiety, restlessness, and total want of sleep. The stomach was particularly affected, being distended, uneasy on compression, and rejecting every thing that was swallowed. He was bled largely in the evening, and took saline medicines, but could not be prevailed on to swallow any thing else, except some toast and water. The sickness had in some degree abated on the next day. A solution of magnesia vitriolata in mint water

was

was prescribed in small occasional doses, in order to relieve the distension of the stomach, and the unpleasant state of the tongue, by procuring some discharge from the bowels *. In the course of the day he took an ounce of the salts, which was not rejected by the stomach, yet he could scarcely be prevailed

* Patients not unfrequently suffer much after operations from disorder of the stomach, and sometimes die apparently in consequence of this affection, and not from local mischief. In these cases opium sometimes fails to quiet the irritability of the stomach; and I have always considered it as a primary object to produce secretions into the bowels, as I have observed that, if discharges can be procured per anum, the stomach becomes tranquil. The *magnesia vitriolata* dissolved in common mint water or peppermint water, in small and repeated doses, and clysters, are, I believe, generally directed to produce this effect. It must be acknowledged that it is disorder of the brain that affects the stomach; but the re-action of the latter affection increases and maintains the former, by which it was produced. These cases are exceedingly various with regard to the degree and kind of the disorder; sometimes the brain seems the part chiefly affected, and the nervous energy appears to be greatly impaired. In such cases cordials seem to be the only medicine that can be prescribed with probable benefit. Sometimes a low kind of delirium takes place, with but a slight degree of febrile action. Sometimes the delirium is more violent, and the febrile actions are proportionably increased, attended with subsultus of the muscles and occasional convulsions.

upon

upon to take any thing else. The tongue was still covered by a thick yellow fur; the skin was hot and dry, and the pulse frequent. As there was no particular tenderness about the hypogastric region, he was not again bled. The second night passed without the least sleep. As the salts had produced no effect, the same medicine was ordered in an infusion of senna, with the addition of some of the tincture, which, by being given in very small doses, was retained. As, however, no effect seemed likely to result from this medicine, a grain of calomel was given at night, and repeated on the following morning. Still the loathing of food continued. The third night passed, like the former ones, without the least sleep, and with great anxiety. On the next morning, two pills, containing five grains of the pil. colocynth. and the same quantity of the pil. aloet. cum myrrhâ, were given every fourth hour. These procured no stool, nor produced any sensation which inclined the patient to believe that they would operate. Again he passed a night without sleep; but, towards the morning, he felt his bowels
apparently

apparently filling, to use his own expression, and a profuse discharge ensued. A dozen copious, fetid, and black evacuations took place between five and ten o'clock, and he had several others in the course of the day; after this, his appetite returned, his tongue became clean, and sound and continued sleep succeeded.

That the chylopoietic organs were in this case the parts chiefly affected, can scarcely be questioned. The sickness, the tenderness of the parts in the epigastric region, the dislike to receive any thing into the stomach, and the state of the tongue, all shew that the stomach was much disordered. The insusceptibility of the bowels to be operated on by those medicines, which would ordinarily have produced discharges from them, and the profuse evacuation which afterwards ensued, and relieved the patient, shew that these viscera participated in the affection. The black colour of the discharges shews, I think, that the secretion of the bile was not healthy. It is probable that some portion of the evacuated
matter

matter proceeded from the liver, in which case it might be justly inferred that this organ was affected in common with the rest of the chylopoietic viscera.

It may be supposed, that the injury done to the omentum might contribute to produce the disorder of these organs, rather than of others. We do not, however, find that such effects commonly succeed to similar operations. The ill consequences in the present case were greater than might perhaps have been expected, if it were not known, that an operation performed on a healthy patient is more apt to produce considerable disorder, than where the constitution has previously sustained the irritation of a disease, for which the operation becomes necessary.

It is probable also that the restlessness and anxiety of the patient were aggravated, if not principally caused by the state of the chylopoietic viscera; since the relief which took place in those parts on the renewal of secretions into them, certainly removed the nervous symptoms.

symptoms. That the discharges were the effect of secretion is proved by the absence of alimentary matter in the bowels, in consequence of the action of the purgative administered on the morning of the operation, and the abstinence both before and after that period*.

I could relate numerous cases in support of the inferences, which I have drawn from the preceding history; that local irritation affecting the nervous system may occasion a subsequent affection of the digestive organs of a

* Two instances are recorded in Mr. Pott's Works of the operation for the reduction of an hernia being performed where no strangulation existed. See Pott's Works, vol. III. pp. 295, 299, edition of 1783.

The operation in the case just related was undertaken upon the authority of these cases, which were both successful. I performed a similar operation on a patient, whose life had been twice in imminent hazard from strangulation, in a case of adherent epiplocele, in which a truss did not keep up the hernia. This operation was followed by violent peritonitis, which could only be subdued by such copious and repeated venæsection, as endangered the patient's life. These cases have made such an impression on my mind, that I should be very averse in future to undertake similar experiments.

most

most momentous nature, and which appears to be the source of great general disorder of the system, because an amendment taking place in the state of those viscera, a corresponding alleviation of the general symptoms ensues. Such cases succeeding to great local irritation must frequently occur to every one; it is therefore unnecessary to adduce more instances.

I shall however relate another case to confirm the opinions which I have delivered, because it appears to me to elucidate still more my present subject.

C A S E.

A gentleman fell with his leg between the bars of an iron grating, which served as a window to a cellar. The part was much bruised, the skin grazed, and the tibia broken into three or four pieces at its upper extremity. The limb was put up in splints by a neighbouring surgeon, and the next day the patient requested to see me in consultation. I attended

tended for a few days, but every thing went on so well, that I discontinued my regular visits, and only called occasionally, without seeing the limb. There was no inflammation; the swelling which had been occasioned by the bruise had subsided, and where the skin had been grazed, two or three trivial ulcers had taken place, which obliged the surgeon to open the bandages and dress them daily. The patient's health had been so good, that about three or four weeks after the accident, he had some friends to dine with him in his room, and afterwards played at cards with them, and parted with them, in the evening, in high spirits. In the middle of the same night, the patient suddenly became delirious, and I was sent for to meet the other surgeon in consultation. The delirium was then so great, that the patient knew not the persons in the room. On looking at the leg, with a view to inquire into the cause of this unexpected occurrence, it was found, that one of the ulcers of the skin on the outside of the limb, on which his position had produced some pressure, had become deep, and apparently penetrated the fascia,

fascia, so as to communicate with the fractured bone, and thus had converted a simple into a compound fracture. To this event we could not but attribute the sudden irritation of the constitution, and the delirium. Opium was immediately given, which quieted this disturbance in a considerable degree, so that on the next day the pulse was more tranquil, and there was no delirium. On the following day his stomach became affected; he was sick, could take nothing by the mouth, had the hiccough, and his abdomen was distended like that of a person in tympanitis; whilst the senses and intellect were not disordered as they had been. In this state he continued about twenty-four hours, when his sufferings were terminated by death. As some suspicions had arisen that the head or abdomen might have been hurt at the time of the accident, the body was inspected; but no injury of these parts was discovered. Upon examining the leg, it was found that the external wound communicated with the fractured tibia, which was broken into several pieces; some of the fractures, ascending in a perpendicular direction,

tion, communicated with the joint of the knee.

In this case the disease was of too short duration for observations to be made respecting the secretions of the chylopoietic organs; but it was evident that there was a complete atony of the stomach and intestines. The consideration of such cases as those which have been related, have convinced me that local irritation may produce a great disorder of the digestive organs. It must, I think, be granted, that it produces such effects through the medium of the nervous system, and that, by a kind of reflected operation, the digestive organs become affected so that the most manifest and greatest disorder seems to exist in them.

Now, if vehement local irritation can produce so violent a disturbance of the chylopoietic organs, it may be expected that a less degree of a similar cause will produce slighter effects of the same nature. Indeed, the foregoing cases were related not merely because
they

they seemed worthy of record by themselves (for such histories are but rarely met with in medical books), but chiefly to prepare the reader for the observations which are to follow.

This flightier kind of derangement occurs in cancerous complaints, which rarely fail to be accompanied with disorder of the abdominal viscera; to which affection I am induced in general to attribute* that difficulty of breathing which has been so generally remarked in the last stages of the disease. We find the same state of the chylopoietic organs in the advanced stages of lumbar abscess, compound fractures, and all kinds of local disease, which impart considerable and continued irritation to the whole constitution. We also find a less important disease, as for instance, a fretful ulcer, keep up a disorder of the system in general and of the digestive organs in particular, which subsides as the irritable state of the ulcer diminishes. But as practitioners in general may not perhaps have so attentively remarked

* See Surgical Observations, Vol. I.

these circumstances as to be familiarly acquainted with them, it may be useful to mention a very common occurrence, which cannot have escaped observation. I allude to the effects of the irritation of teething upon the health of children. The Brain is sometimes so affected as to cause convulsions; the digestive organs are almost constantly disordered. The appetite fails; the tongue is furred; the secretions of the liver are either suspended, deficient, or vitiated. The bowels are either purged or costive, and the fæces fetid. The fæcal matter is often mixed with mucous and other secretions. There is also frequently a very troublesome cough. Such symptoms generally subside when the local irritation ceases, but sometimes the disorder of the digestive organs, thus excited, continues and disturbs the general health of the patient.

If local irritation be capable of disordering the bowels, we naturally conclude that it acts upon them through the medium of the brain. If also the brain and nervous system should be disordered, without any apparent
C local

local disease, we might expect similar derangements in the functions of the digestive organs. In cases, where some morbid poison is absorbed, which produces effects similar to those of syphilis, we frequently find the general irritation of the constitution accompanied also with that disorder of the bowels, which I now proceed more particularly to describe.

This slighter disorder of the chylopoietic organs is, in general, manifested by a diminution of the appetite and digestion, flatulence, and unnatural colour and fœtor of the excretions, which are generally deficient in quantity. The tongue is dry, whitish, or furred, particularly at the back part; this symptom is most apparent in the morning. As the disease advances, a tenderness is felt when the epigastric region is compressed, and the patient breathes more by the ribs, and less by the diaphragm than in the healthy state. The urine is frequently turbid. I am inclined to impute these symptoms (for reasons which will be hereafter mentioned) to an irritable state of the chylopoietic organs, which is accompanied
by

by a deficiency or depravity of those secretions, upon the healthy quality of which, the right performance of their functions depends. As all the secretions poured into the alimentary canal are colourless, except the bile, in that alone can any defect or depravity be discovered by inspection.

Before I proceed, I may be allowed to enter more fully into a consideration of the symptoms which denote disorder of the digestive organs; in order to induce surgeons to pay that strict attention to them, which the importance of the subject so well deserves. It would indeed be impossible for the reader to understand, without such prefatory observations, my object in the treatment of the cases which will presently be related, or the opinions which I have formed, relative to their mode of cure.

The changes which the food undergoes in the digestive organs of the more complicated animals are threefold; and distinct organs are allotted to each of the three processes. Digestion

tion takes place in the stomach, chylication in the small intestines; and a third process, hitherto undenominated, is performed in the large intestines. It is probable that in some cases, one set of organs may be more disordered than the others, and of course one of these processes may fail more than the rest. For instance, the stomach may digest the food in a healthy manner, although the intestines do not perform their share of the changes, which they ought to effect.

Disorder of the stomach is generally manifested by the state of the tongue. If there be no fever to disturb the secretions in general, the change which is visible in the tongue can be imputed to no other cause than local disease, or a participation in a disorder of the stomach or lungs. Local irritation or mental anxiety will cause a white and dry tongue; but does not this effect arise through the medium of an affection of the stomach? For although the secretions of the tongue must partake of the general disturbance which prevails in fever, their especial disorder may be, in that case also,

also, not improperly attributed to the state of the stomach.

The state of the tongue is, in general, an infallible criterion of a disordered condition of the stomach; but it does not point out the kind and degree of that disorder. In recent and considerable affections, where the appetite is lost, and the digestive powers are greatly impaired, the appearances of the tongue are by no means so strikingly unhealthy as in more confirmed cases, where neither the appetite nor digestion appear materially deficient. It is probable that a continuance of irritation in the stomach may so affect the tongue, as to render unnatural secretions habitual to the part, and that these exist independently of the original cause, or may be reproduced by trivial degrees of disorder. Nay, sometimes the cuticle of the tongue seems to have lost its transparency, and to become permanently white, in consequence of continued irritation.

After making the allowances, which such circumstances require, we may in general be enabled

enabled to detect a disordered state of the stomach by observations made on the tongue: and, as it is of consequence to ascertain such disorder at an early period, when the symptoms are probably slight, this organ should be observed in the morning, when it will be found much furred, particularly at the part next the throat. Its appearance may vary in different parts of the day from varieties in the state of the stomach, depending on the excitement which is derived from food, or a state of irritation arising from too long fasting. The tongues of many persons with disorder of the stomach look moderately healthy during the day, though they have been so much furred in the morning, that it has been deemed necessary to scrape them.

A disordered state of secretion, either as to quantity or quality, will be the natural effect of irritation of a secreting organ. This is evidently the case with the tongue; and we may, with great probability, conjecture that the same consequence also takes place in the stomach. Since the juices of the stomach are the immediate
agents

agents in digestion, that process must be disturbed in proportion as its secretions are deficient or vitiated.

If undigested matter pass from the stomach into the intestines, it can scarcely be supposed that their powers are capable of converting it into chyle; and it may become irritating to those organs in consequence of the chemical changes, which it may then undergo. Animal and vegetable matters experience considerable chemical changes before they leave the stomach; and these changes are likely to increase in proportion to the time during which they are detained, unless counteracted by the powers of the digestive organs, powers which seem chiefly to reside in the fluids which are secreted into them,

The extent of the power which the intestines possess of converting the substances contained in them into chyle, or of preventing chemical changes, is unknown. It is probable that much unassimilated matter is absorbed by the lacteals, when the digestive powers fail in
their

their functions. This is demonstrably the case in diabetes, where the vegetable matter floats in the serum of the blood, rendering it turbid, and afterwards combines so as to form sugar in its passage through the kidneys. The strong odour, which various kinds of food impart to the urine, proves also the indiscriminate manner, in which different substances are absorbed from the intestines. May not a turbid and fetid state of the urine very frequently arise from a similar cause; *viz.* from the imperfect action of the digestive organs, in consequence of which, unassimilated matter is taken up by the lacteals, and afterwards separated from the blood, so as to impart these qualities to the urine? It may be reasonably conjectured that the same powers, by which the kidney converts the old materials of our body into that peculiar modification of animal matter, which is dissolved in the water of the urine, and which has been called by the French chemists *urée*, may also enable it, in a healthy and vigorous state, to dispose of much unassimilated substance in a similar way. The further consideration of this subject would, however, lead to

to a discussion foreign to the purpose of the present paper: it will be sufficient to remark at present, that the state of the urine may afford assistance in ascertaining the existence of disorder of the digestive organs, and in indicating its nature. It has been already mentioned, in the brief account of the symptoms, that the urine is frequently turbid. It should, however, also be observed, that the quality of the urine much depends on the state of the nervous system. It is frequently, in the disorders of which I am speaking, pale-coloured and copious, which is probably owing to a state of nervous irritation, such as exists in hysteria. It is not improbable that disorders of the digestive organs, by causing the frequent secretion of unnatural urine, may produce irritation, and subsequent disease of the kidneys.

Modern physiologists seem to agree in the opinion that the *succus gastricus* is the agent, by which digestion is effected; but they are not so unanimous as to the immediate cause of chylification. It is not improbable that the *succus intestinalis* is a principal agent, although
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its qualities have not yet been enquired into; for, indeed, the investigation would be attended with difficulties almost insuperable.

Since the bile and pancreatic liquor are poured into the intestines at a small distance from the stomach, it is natural to consider these fluids as useful in effecting the change, which the alimentary matter undergoes in the small intestines, namely, its conversion into chyle. The chyme, or aliment digested by the stomach, being viscid, the pancreatic juice has been considered as an useful and necessary diluent.

The uses of the bile have of late much engaged the attention of physiologists. Mr. Hunter observed that it did not seem to incorporate with the chyle; and it certainly cannot do so, and retain its own nature, since its colour and taste are so intense, that it would impart these properties to the chyle, if mixed with it in the smallest quantity. The difficulty of conceiving that the two fluids can be agitated together by the peristaltic motion of the intestines,

tines, without becoming incorporated, has led to an opinion that the bile may combine with the alimentary matter, and lose its original properties; but nothing of this kind is ascertained. Fourcroy thinks that the alkali and saline ingredients of the bile may combine with the chyle, and render it more fluid, while the albumen and resin may combine with the excrementitious matter. It is, indeed, evident that the bile combines either totally or partially with something separated from the chyle, and exists formally in it, and in a state of health uniformly dyes it of its peculiar colour; and therefore it has of late been supposed that the bile may serve to purify the chyle, by precipitating and combining with its feculent parts*.

It has been said in the brief and general recital that has been given of the symptoms,

* In the enquiry into the probable uses of the bile, it ought to be observed, that in many persons, in whom that secretion is either for a considerable time wholly suppressed, very deficient, or much depraved, it does not appear that the nutrition of the body is defective.

which

which characterize disorder in the chylopoietic organs, that the stools are of an unnatural colour and odour. Medical men entertain various opinions respecting the colour of the fæces : to me this property seems generally to depend on the kind and quantity of the bile. All the secretions, which are poured into the alimentary canal, except the bile, are colourless or white ; if, therefore, this fluid were wanting, the residue of the aliment would be of the colour, which might be expected to result from some of its undigested parts combined together. When, for instance, the secretion of bile is stopped by the irritation of teething in children, whose diet is chiefly bread and milk, the fæces are white ; when this secretion is obstructed in adults, the stools are pale like whitish-brown paper.

In cases of disease, however, coloured secretions may take place from the bowels. I have known instances, in which a fluid like coffee-grounds in colour and consistence was vomited ; and a similar matter, of darker colour and of an offensive smell, was discharged
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in great quantities per anum : and I have seen green bile mixed with these discharges. I have examined the bodies of persons who died of such attacks, and have found the lining of the alimentary canal highly inflamed, and apparently tending to mortification throughout its whole extent, without there being any disease of the liver. I am, therefore, fully aware that the fæces may be coloured by diseased secretions from the bowels themselves ; but, in my opinion, they very rarely derive their colour from this cause. Further ; an unhealthy colour of the fæces may be attributed to some degeneracy in the quality of the alimentary matter ; such as may be supposed to take place when the digestive organs fail in the performance of their offices, and different alimentary substances are in consequence detained in the bowels, where they may pass through chemical decompositions and re-combinations. But, though I am inclined to allow the full operation of these causes, the following reasons lead me to believe that the colour of the fæces generally depends on the kind and quantity of the bile. In the natural state

state of the digestive organs, when there is no peculiarity of diet, and no medicine is taken, the bile alone colours the residue of the food. The fæces voided during a state of disorder of the digestive organs are sometimes partially coloured; which circumstance cannot be well accounted for upon any other supposition than that of an irregular secretion of the bile. Fluids secreted from the intestines do not usually enter into combination with the fæcal matter, but appear distinctly when excreted. Thus we find mucus and jelly discharged from the bowels, unmixed with the fæces. Medicines which affect the liver produce a very sudden change in the colour of the fæces. Small doses of mercury, without any alteration of diet, sometimes change the stools immediately from a blackish to a light yellow colour, which indicates a healthy but deficient secretion of bile.

Healthy bile in the human subject is generally of a deep yellow brown colour; the brown seems to be the result of the yellow colour concentrated. It appears to me to be
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be of the colour of wetted rhubarb; for, if a small portion of either of these substances be put into a large quantity of water, they will dye it of a bright yellow colour, which is actually the colour of these substances, yet it is so concentrated in the mass as to appear of a deep brown. Sometimes, indeed, we find green bile in the gall bladder, when the liver is not diseased. I cannot, however, but think that the natural colour is a yellow, so intense as to appear brown. Green bile is usually poured out in circumstances, where there is evident disorder of the digestive organs; and we cannot well suppose that there are two kinds of healthy bile. The quantity of this fluid should be such as completely to dye the excrement of its peculiar colour. By attending, therefore, to the colour of the fæces, the kind and quantity of bile, which the liver excretes, may in general be ascertained.

The colour of the alvine excretions in these disordered states of the viscera is various. Sometimes they appear to consist of the residue of the food, untinged in the least degree with bile.

bile. Sometimes they are of a light yellow colour, which denotes a very deficient quantity of healthy biliary secretion; they may also be of a deep olive, of a clay brown, and of a blackish brown; all which shew a vitiated state of the biliary secretion.

Any kind of brown, which dilution will not convert into yellow, I should consider as unhealthy, since the colour of healthy bile is a bright yellow, which by concentration appears brown.

Such are the circumstances which I have collected from my own observation, and the reports of others, relative to the alvine excretions, in the disorders which have been described.

I have dwelt thus particularly upon the subject of the biliary secretion, from a belief that its quantity and quality can, in general, be ascertained by inspection, and will therefore serve to indicate the presence of disorder. Whether the foregoing opinions be correct or
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not, it will, I think, be generally granted that the state of the excretions from the bowels commonly indicates the healthy or disordered state of those organs.

The effects, which medicine or diet may have upon the colour of the fæces, ought, however, to be considered. When the food is coloured, and this colour is not altered by digestion, it will, of course, appear in the fæces; hence if it should be thought desirable to know accurately the state of the biliary secretion, it would be right to restrict patients to a diet that is not likely to colour the fæces. The green colour of vegetables tinges the fæcal residue of the food. Steel also is known to influence the colour of the fæces. It should also be remarked that the exposure of the fæces to air after their expulsion, will, in some instances, cause a considerable alteration in their colour. In our endeavours, therefore, to ascertain whether the liver is performing its office rightly, by observing the colour of the fæces, attention should be paid to the circumstances which have been mentioned,

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lest we should be deceived, in consequence of such inattention.

I conclude this review of the opinions entertained respecting chylification, by observing that if the *fuccus intestinalis* be an agent in this function, disorder of the intestines is likely to affect its secretion, and thus impede this second important part of the process of assimilation.

The residue of the alimentary matter, mixed with the bile, passes from the small into the large intestines, and there undergoes a sudden change; it acquires a peculiar fœtor, and becomes what we denominate fœces. This change is so sudden, that it cannot be ascribed to spontaneous chemical alterations, (which would be gradual) but to some new animal agency. If the contents of the small intestines at their termination, and of the large at their commencement, be examined, they will be found totally different, even within a line of each other; the former being without fœtor, and the latter being in all respects
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what is denominated fæces. Though chemists then might speak of the fæculent matter of chyle as fæces, yet physiologists would rather apply that term to a change in the residue of the food, which takes place in the large intestines, and which seems to be effected by the animal powers of those organs. The fæces quickly suffer chemical decomposition out of the body, although they often remain in the bowels, without undergoing the same kind of change. Their chemical decomposition is attended with the sudden formation of ammonia; yet if they be examined when recent, they are found to contain acids which ammonia would neutralize. The inference, therefore, naturally arises, that this third process, amongst other purposes, may be designed so to modify the residue of the alimentary matter, as to prevent it from undergoing those various chemical changes, which might be stimulating to the containing organs, as well as injurious to the general health.

In a perfectly healthy state of the digestive organs, probably no chemical decomposition,

even of the fæces, takes place; yet such changes happen, in some degree, without apparently producing any injurious consequences. To chemical changes we may probably attribute the extrication of inflammable air, and the various and unnatural odour of the fæcal matter, which is observable in disordered states of the digestive viscera.

The means by which this modification of the residue of the food, which takes place in the large intestines, is effected, are but little known. Analogy leads us to refer it to the effects of a secretion from the lining of those intestines in which it takes place. Now if this secretion deviates from the healthy standard, in consequence of an irritated or disordered state of those organs, we may reasonably expect a corresponding derangement of the process, by which the residue of the food is converted into fæces.

Having taken this general view of the functions of the chylopoietic viscera, in order to facilitate the forming a judgment relative to those

those circumstances which indicate their derangement, I return to speak more fully of that affection of them, which I have described, as arising in surgical cases from the irritation, which local disease or morbid poisons produce upon the sensorium. This subject, it must be acknowledged, is very important, if it can be shewn that disorders of the digestive organs are the cause of a great number of other diseases. The enquiry would then not only lead us to discover the source of many disturbances of the general health, which originate in those of the digestive organs (for patients have no suspicion of any disorder existing in them), but would also lead to the prevention of many secondary diseases of a more vexatious and sometimes of a more fatal nature, than those from which they originated. If the tongue be furred at its back part in the morning, when there is no fever, and when the patient has taken no stimulating or indigestible food the preceding night, it is reasonable to infer in general that the state of the tongue is owing to its participating in the irritation of the stomach. Such participation produces an alteration

alteration in the secretions of the tongue ; they are either deficient in quantity, or vitiated in quality ; and it is not unreasonable to suppose that the secretions of the stomach deviate in like manner from their healthy state. A state of irritation in any secreting surface is, indeed, likely to be attended with the same consequences. It is, therefore, fair to infer that, when a general disorder of the digestive organs takes place, those fluids, which produce the changes which the food undergoes in them, are deficient or depraved, and consequently that digestion and the subsequent processes must be but imperfectly performed. The liver is likely to participate in the disorder, and the biliary secretion is either diminished or vitiated. This circumstance admits of ocular demonstration ; and I have, therefore, considered it as an evidence of a more or less general disorder of the digestive organs. A very reasonable objection may, however, be made to considering the disorder of the functions of the liver as a criterion of those of the stomach and intestines ; since the liver is independent of the latter organs, and may be, as will presently

sently be mentioned, the subject of a disorder confined to itself. In some cases, also, disorder of the alimentary canal may take place, without disturbing the functions of the liver. Still, in general, disorders of the stomach and bowels affect the functions of the liver; and the state of the biliary secretion affords a very useful evidence of a more or less general disorder of the chylopoietic viscera, and should excite our attention to investigate its kind and degree. This disorder, which has been described, must also, I think, be considered as connected with a state of weakness of the affected organs.

It is said, in the recital of the symptoms denoting disorder in the digestive organs, that the fæces are generally deficient in quantity. This circumstance may be accounted for in various ways. It may be supposed that the bile being deficient in quantity, or of an unhealthy quality, may not precipitate the usual proportion of fæculent matter from the chyle. Persons whose bowels are lax, and do not appear to be deficient in their action of carrying downwards the fæculent matter, void it daily

daily in deficient quantities. It may be supposed too that, either from the deficiency of bile, and consequent want of excitement, or from the effects of disorder, a torpid state of the bowels may exist, which causes them to carry downwards the fæculent matter in small quantities. The circumstance may cause a greater absorption of the fæces than what is natural, or an accumulation of them in the colon*.

That the digestive organs in general are affected, in the cases alluded to, is most evident; but I am aware that many varieties of disorder may be included in the general description of the symptoms, which I have given. Future observations may lead to further distinctions; but I see no impropriety at present in speaking of the disordered state as general; since no material disorder can take place in one of the digestive organs, without disturbing the functions of the others. When digestion is imperfectly executed, the functions of the intest-

* The cases related by Doctor Hamilton appear to shew that such accumulation sometimes takes place. See his *Treatise on the Effects of purgative Medicines*.

tinal canal will soon participate in the disorder of the stomach. Under these circumstances, the secretion of bile will also probably become irregular. Should disease commence in the large intestines, as about the rectum, it disturbs the functions of the stomach, and secretion of the liver, and becomes augmented in its turn by its sympathy with these parts. Should the liver be disordered in the first instance, the stomach and bowels may not immediately sympathize, although they will probably soon become affected.

I feel further warranted in considering the symptoms, which have been recited in the former part of this paper, as arising from a general disturbance of the functions of the digestive organs, from contemplating the effects of blows on different parts of the belly, which do not seem to have injured the structure of any single abdominal viscus, but which yet produce effects denoting a general disorder of the whole of these organs. The symptoms have varied in severity in proportion to the violence of the blow which had been received. In the
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cases which were the consequence of the more forcible injuries the symptoms were, a furred tongue; great vomiting, so that the stomach could retain no food; difficulty of affecting the bowels by medicine; great fever; and even delirium. Indeed, all those effects were produced, which I have represented as arising from vehement local irritation of remote parts of the body. The disorder has generally terminated by a profuse discharge of black and fetid stools, after which the patient has perfectly recovered. On the contrary, where the symptoms consequent on the blow have been less violent, so as not to claim such strict attention, the disorder has continued. Persons who had been previously in perfect health, have become hypochondriacal, and have had all those symptoms of disorder of the digestive organs, which have been already enumerated as arising from a less degree of local irritation, with such consequent diseases as originate from such disorder, and which will be mentioned in the subsequent part of this paper.

In order to enquire more particularly into the nature of this disorder of the digestive
organs,

organs, I have examined the bodies of a considerable number of persons who have died of cancer, lumbar abscesses, and other great local diseases. I knew that these patients had their digestive organs disordered in the manner that I have described, and that in many of them the secretion of bile had been suppressed for a great length of time, and, when it was renewed, that it was very deficient in quantity, and faulty in quality: yet, on dissection, no alteration was discovered in the structure of the chylopoietic viscera, which could be decidedly pronounced to be the effect of disease. It naturally excites surprise, that such a state of irritation, and imperfect performance of the natural functions of these parts should exist for so long a time, as in many cases it is known to do, without producing organic disease; still I believe it may be set down as an axiom, and which has been verified by every observation which I have made, that a state of irritation naturally leads to those diseased actions, which produce an alteration of structure in the irritated parts.

However,

However, where the disordered state of the bowels had been of longer duration, I have found the villous coat of the intestines swollen, pulpy, turgid with blood, and apparently inflamed, and sometimes ulcerated; and these appearances have been most manifest in the large intestines. Having observed repeatedly in dissections of these cases, that the large intestines were more diseased than the small ones, it occurred to me, that the fact might be accounted for in the following manner: If digestion is incomplete, the undigested food must be liable to chemical changes, and the products resulting from this circumstance, are likely to be most stimulating to the large intestines. Indeed, in advanced stages of this disorder, mucus and jelly tinged with blood are discharged, and it seems probable that a kind of chronic dysentery may be induced.

In some instances, where the disorder had existed for many years, the bowels have been diseased throughout their substance; the internal coat being ulcerated, and the peritoneal covering

covering inflamed, so that the convolutions of the intestines were agglutinated to each other. Here the liver also was much diseased, being tuberculated in every part. Such is the result of the information which I have obtained by dissection.

I have represented this disturbed state of the chylopoietic organs in surgical cases, as excited frequently by disorder of the sensorium, produced by great local disease, or from a similar disorder, occasioned by the absorption of morbid matter. The same affection, characterized by the same symptoms, occurs very frequently as an idiopathic complaint. The causes which have appeared to produce it, in the cases which have fallen under my notice, are improprieties of diet, a sedentary life, impure air, anxiety, and too great exertion of the mind or body. It is indeed no wonder, that the continual irritation of our unnatural diet, should, by degrees, produce such disorder of the digestive organs as I have described.

Whatever

Whatever *may* be the origin of this disease ; whether it occur as a consequence of nervous disorder, or assume an idiopathic form, it uniformly disturbs the nervous system, when once established. When it is sympathetic, the effect becomes a cause, and maintains that disorder of the nerves, by which it was originally produced.

In the general enumeration of the symptoms, several circumstances have been omitted which occur occasionally, and which may, when the subject is better understood, denote peculiarities in the disease, and corresponding peculiarities in the medical treatment, which is required for its cure. I shall here notice a few of these. The appetite is sometimes moderately good, when the digestion is imperfect ; and the latter may not be deficient, although the disease may still exist. In some instances indeed, the appetite is inordinate. Tenderness of the epigastric region on pressure, is not always an attendant, even on advanced stages of the disease. The bowels are alternately

nately costive, or lax even to purging*. The urine is sometimes pale-coloured and copious like that of hysterical patients.

A disorder in the functions of the stomach and bowels, similar to that which has been here described, may exist without the functions of the liver being disordered; and again, the secretion of bile may be interrupted, without the digestive processes being materially impeded. Such circumstances may happen occasionally, but they are not ordinary occurrences, and should be considered as exceptions to general rules, which do not militate against their common operation.

Accurate attention to the subject, especially in medical cases, may lead to important subdivisions, which I have not yet been able to make. But when I find that irritation of the

* I have known persons whose bowels were ordinarily costive, and whose general health was much deranged by disorder of the digestive organs, though they were unconscious of its existence, feel pleased that their bowels were in a comfortably lax state; yet on observing the stools, they resembled pitch in colour and appearance.

nervous system, however it may originate, deranges the chylopoietic organs, and affects the stomach, bowels, and liver, apparently at the same time, I think it fair to infer, that these organs are equally operated on by the same cause. Disorder of the brain may affect the chylopoietic organs; and it is well known that this influence is reciprocal. The stomach is said to be chiefly concerned in producing these effects; but the causes of the sympathetic affection are probably more general. A fit of passion has produced jaundice; and the irritation of teething in children frequently suspends the secretion of bile; so that the stools are not in the least degree tinged with that fluid. If the head can thus affect the liver, it is reasonable to infer, that the liver may reciprocally affect the head. It is very difficult to form an opinion relative to this subject; for, in the instances which have been mentioned, the affection of the liver may take place, only because it forms a part of the digestive organs, and not from a direct sympathy existing between it and the head. Still, however, I do not think it unreasonable to conclude that irritation

tion of the other chylopoietic organs may, as well as that of the stomach, disorder the source of sensation.

In the preceding pages, I have related facts which seem to warrant certain conclusions, that I shall presently mention. As the narrative has been broken into many parts, I think it right to point out the inferences, which may be fairly drawn from the facts already stated, before I proceed to the further discussion of the subject.

1, Sudden and violent local irritation will produce an equally sudden and vehement affection of the digestive organs.

2, A slighter degree of continued local irritation will produce a less violent affection; the ordinary symptoms of which are recited in page 18.

3, This affection is a disorder in the actions, and not a disease in the structure of the affected organs; although it may, when long
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continued, induce evident diseased appearances, both which circumstances are proved by dissections.

4, A similar disorder of the digestive organs occurs without local irritation, and exists as an idiopathic disease; in which case, it is characterized by the same symptoms.

5, There are some varieties in the symptoms of this disorder, both when it is sympathetic and idiopathic. These are enumerated in page 46.

6, The disorder probably consists in an affection of all the digestive organs in general, though in particular cases, it may be more manifest in some of those organs, than in others.

7, That disorder of the digestive organs, frequently affects the nervous system; producing irritability and various consequent affections. This is proved by the effects of blows on the belly, in persons previously healthy; and the
same

same consequences are often observed from whatever cause the disorder originates. At the same time weakness must be produced from imperfect digestion; and from the combination of these causes, *viz.* weakness and irritation, I deduce the origin of many local diseases, and the aggravation of all, as will be seen in the relation of the cases.

Nothing in pathology is more generally admitted, than the reciprocal operation of disorders of the head and of the digestive organs; yet the exceptions to this general rule deserve to be remarked in a comprehensive examination of the subject. Some persons have great disorder of the digestive organs, without any apparent affection of the nervous system; and even diseases of a fatal nature may take place in the former organs, without affecting the latter. Indeed, if we examine any of the most evidently sympathetic affections, we shall find the same exceptions. An inguinal gland, or the testis, frequently inflames from irritation in the urethra; yet great disease occurs occasionally in that canal, without

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producing these apparently sympathetic consequences.

We can never be certain that the stomach and bowels are the only organs disordered, nor even that they were primarily affected. General nervous irritation may have preceded the disorder, or may have been caused by it. The history will generally shew, that the derangement of the digestive organs is secondary. It arises from local irritation, and can be produced only through the medium of the sensorium. When it is idiopathic, it frequently originates in causes which affect the nervous system primarily; such as anxiety, too great exertion of mind or body, and impure air. Sedentary habits and irregularities of diet are causes which probably act locally on the organs themselves. Nervous irritability and weakness are not perhaps susceptible of a direct cure by medicine; but the disorders of the digestive organs are more corrigible by medical remedies. In practice, these require our chief attention; and if the disorders be corrected, all nervous irritation

tion frequently ceases, and health is restored. In many instances the nervous irritation, which has induced the disease, is trivial, and would soon cease, were it not kept up by the reaction of its secondary symptoms.

Whether this disorder of the digestive organs be primary or secondary, it produces irritation in the brain ; and thus may cause in many instances actual disease of that organ, as will be stated in the conclusion of this paper. But derangement of the digestive organs arises, in many cases, from established nervous disorder ; indeed there is often reason to suppose that it is dependent on, or connected with, actual disease of the brain. In such cases, the correction of the disordered functions cannot be accomplished ; and even if it were practicable, it would not cure the disease. It is however highly necessary and advantageous to attend to the disorder of the digestive organs, where it is only a symptom of nervous disease. The relief of the former will often mitigate, though it cannot cure the latter.

I shall,

I shall, in the next place, represent the general circumstances, relative to the health of those persons who have local diseases, apparently caused or maintained by disorder of the whole system. They generally declare that they are in good health, except that they feel disturbed by their local complaints; yet they are found, on enquiry, to have all those symptoms, which characterize a disordered state of the digestive organs. The mind is also frequently irritable and despondent; anxiety and languor are expressed in the countenance. The pulse is frequent or feeble, and slight exercise produces considerable perspiration and fatigue. These patients are sometimes restless at night, but when they sleep soundly they awaken unrefreshed, with lassitude, and sometimes a sensation, as if they were incapable of moving. Slight noises generally cause them to start, and they are, to use their own expression, very nervous. These circumstances seem to me to indicate weakness and irritability of the nervous and muscular systems; which, in addition to the disorder of the

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the digestive organs, that has been described, are the chief circumstances observable relative to the general health of those patients, whose cases are related in the following part of this paper. By correcting the obvious errors in the state of the digestive organs, the local disease, which had baffled all attempts at cure by local means, has speedily got well, and the patient has acknowledged that such an alteration has taken place in his general health, as excites his astonishment.

The connexion of local disease with general disorder has been often remarked; it has been formerly attributed to impurity of the fluids; a theory which is not irrational. Imperfect digestion must influence the qualities of the blood, and all parts of the body may be affected from this source. But the modern explanation of these phænomena, by means of sympathies, is probably preferable. Afflicting intelligence will destroy the appetite and produce a white tongue in a healthy person; and a blow on the stomach disorders the head. These phæ-
 nomena

nomena take place independently of the blood, and can only be explained by admitting that disturbance of one organ immediately affects another.

The writings of the ancients abound with passages, in which diseases are attributed to affections of the abdominal viscera, and the same fact has been noticed by several of the moderns. The French surgeons appear to be very solicitous to keep the bowels in a cool and tranquil state; and Dessault ascribes the origin of erysipelas to a bilious cause. The German surgeons, Richter and Schmucker, attribute many local diseases to gastric affections; and in Italy, Scarpa views the subject in the same light. The English practitioners seem to have been less attentive to this class of disorders; inasmuch that Fischer, a German, who published an account of the state of medicine in this country, expresses his surprise that the English should be so little acquainted with gastric diseases. I know not exactly what ideas these gentlemen may annex to the terms gastric and bilious disorders,

ders, since they do not particularly describe them. I have represented the subject in the foregoing pages, as it has appeared to me on the most attentive examination. There are circumstances which denote irritation of the digestive organs to exist, and deficiency or depravity of their secretions; and the disorder exists in every gradation, between the slightest and most violent affection, without any evident difference in its nature.

The result of all the observations, which I have been able to make, relative to this subject, has induced me to believe that the disorder of the digestive organs, caused by the various circumstances, which have been recited, consists in a weakness and irritability of the affected parts, accompanied by a deficiency or depravity of the fluids secreted by them, and upon the healthy qualities of which, the right performance of their functions seems to depend. The opinion that the disordered state of the digestive organs, which has been described, consists in a weak and irritable state of them, attended by

a deficiency or vitiated state of their secretions, is deduced immediately from the consideration of the symptoms, and confirmed by all the collateral evidence, which we can collect. The duration of the affection, without fatal consequences, shews that it is a disorder of functions, and not a disease of structure. Dissections confirm the opinion. Blows, which excite general irritation of the digestive organs, produce also the symptoms which characterize the like disorder, when it arises from nervous irritation, or is excited by intemperance. I doubt not but every one will, on reflection, consider the disorders of the digestive organs to be of the first importance, and will perceive the propriety of diligently enquiring into their nature that we may know them when they exist, and that our attempts to remedy them may be conducted on rational principles. This consideration will, I trust, vindicate me in employing so much time in an investigation which, perhaps, some may consider as tedious and unprofitable.

It

It is generally admitted, that disorders of the chylopoietic viscera will affect the source of sensation, and consequently the whole body; but the variety of diseases which may result from this cause, has not been duly weighed and reflected on.

It may produce in the nervous system an abolition of the functions of the brain; or a state of excitation, causing delirium, partial nervous inactivity and insensibility, or the opposite state of irritation and pain. It may produce in the muscular system, weakness, tremors, and palsy; or the contrary affections of spasm and convulsions. It may excite fever by disturbing the actions of the sanguiferous system, and cause various local diseases by the nervous irritation, which it produces; and by the weakness, which is consequent on nervous disorder or imperfect chyli-fication. Or if local diseases occur in a constitution deranged in the manner which I have described, they will become peculiar in their nature and progress, and difficult of cure. Affections of all those parts which have a continuity

tinuity of surface with the stomach; as the throat, mouth, lips, skin, eyes, nose, and ears, may be originally caused or aggravated by this complaint. I must observe, before I proceed to the relation of cases, that such a disorder of the digestive organs as I have described existed in every instance. I do not take upon myself to say that it was the primary cause of the general derangement of the constitution, with which the local disease appeared to be connected; it might have been the consequence, as indeed has been stated in these preliminary observations.

I shall now proceed to mention the plan which I have pursued in the treatment of these disorders, when they have been connected with surgical diseases; and the following cases will demonstrate with what degree of success. I do not feel altogether competent to give full directions, relative to this subject; because I have never attended to medical cases with that degree of observation which would lead me properly to

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to appreciate the efficacy of different medicines, when administered either in their simple or compounded forms. The subject is so important, that the public would be highly indebted to any practitioner, who would point out the varieties of these diseases, and the appropriate modes of cure. The method of treatment which I have adopted is simple, and founded on the opinions I have formed, of the nature of the disease, and physiological views of the functions of the affected organs. Believing the disordered parts to be in a state of weakness and of irritability, my object has been, to diminish the former and allay the latter. Believing also that the secretions into the stomach and bowels, upon the healthy state of which, the due performance of their functions depends, were, in consequence of such disorder, either deficient in quantity or depraved in quality; I have endeavoured to excite, by means of medicine, a more copious and healthy secretion.

In conformity to these views of the subject, the patients have been recommended to be
particularly

particularly attentive to their diet. The food should be nutritious, and easy of digestion: strong plain broths, animal food of loose texture, milk, eggs, and farinaceous vegetables, are the articles which appear most adviseable. But, as custom and inclination have so great an effect in regulating the actions of the stomach, I have contented myself with recommending patients not to eat any thing, which it was probable that they could not digest. It seems reasonable to suppose that, if the food be properly digested, it will not irritate the intestinal canal; but that, if digestion fails, the animal and vegetable matters will undergo chemical changes in their passage through the long tract of intestines, and thereby maintain a state of irritation in those organs. I have urged patients not to oppress the powers of the stomach by too great a quantity of food, nor to take a second meal, until time has been allowed for the digestion of the first. I have also cautioned them not to let the stomach become irritable by too long abstinence. I have ordered five grains of powdered rhubarb an hour before dinner, with a view of inviting secretions

secretions into the stomach, and of preparing it for the office of digestion. This gentle excitation perhaps induces it to expel any residue of alimentary matter, and creates a kind of artificial appetite; so that persons habitually subject to indigestion experience very considerable benefit from the practice. Where rhubarb has disagreed, columbo has been substituted.

The function of digestion will not, however, go on well, even where these circumstances have been attended to, if the stomach be deprived of a stimulus to which it has been long accustomed. Uneasy sensations will be experienced, denoting, if I may so express it, a discontented state of this organ, and a want of the expected stimulus. It is on this account injurious to restrain those patients from the use of wine who have been in the habit of taking it. A moderate quantity may be allowed after dinner; but strong fermented liquors must be injurious at any other period. It is wrong to stimulate the stomach when it has no task to perform.

A regular

A regular diurnal evacuation of the bowels is particularly necessary, since the detention of the fæces must prove irritating to these organs. Purging medicines sometimes relieve unpleasant sensations; but they do not in general produce even this effect; and all active purges seem to me to increase the disorder. It is natural to suppose that strong stimuli will aggravate the unhealthy condition of weak and irritable parts.

It is difficult, in many cases, to correct the disease by diet or medicine. The bowels are costive for a time, and then fits of purging come on. The former state must be obviated, in order to prevent the latter. Medicines which excite a healthy action of the bowels in one person, are either inert or too active in another. Doses which would have no effect in a state of health, become purgative in this disorder; a circumstance which shews that the bowels are irritable. There are some rare instances of the contrary, in which it is exceedingly difficult to excite the actions and secretions of these viscera. In some cases a diet of

a more vegetable and less stimulating nature, with saline aperients, do good. In others, a more generous diet, and aperients of a warmer kind are beneficial. The object which I have had in view, in all cases, is to excite the peristaltic action of the bowels, without purging; so as to insure the expulsion of whatever ought to be discharged.

In giving purgative medicines I have endeavoured to combine them, so as to excite and strengthen at the same time. Rhubarb, columbo, and kali vitriolat. have been given together; or an infusion of gentian with fenna or tincture of rhubarb. When the infusion of gentian with fenna has been given, it has been prescribed, in the subsequent cases, according to the following formula:

R. Infus. gentian. comp. ʒj.

Infus. fennæ, ʒij.

Tinct. cardamom. comp. ʒj.

Fiat haustus, bis quotidie, vel pro re natâ, sumendus.

It is sometimes necessary to increase the quantity of infusion of fenna. I have found in some cases, that the purgative medicines and spices dissolved in spirit and water, have answered better than any thing else, in producing a sufficient, but not too copious discharge from the bowels. Equal parts of compound tincture of rhubarb and fenna is the formula to which I allude. When irritation in the large intestines has been denoted by the mixture of mucus and jelly with the fæces, and sudden and urgent calls to void them, I have advised oily and mucilaginous medicines as aperients; as castor oil, mixed with a large proportion of mucilage. My sole object, however, has been to regulate the state of the bowels; and when they have been regular without medicine, I have rarely recommended any.

At the same time, I have not been inattentive to the error in the biliary secretion, which exists in the greater number of these cases. I have endeavoured to correct this error by the administration of such small doses
of

of mercury, as do not irritate the bowels, and are not likely to affect the constitution, even though persevered in for a considerable time. In this state of the digestive organs, calomel, in small quantities, sometimes proves irritating. I have combined it as in Plummer's pill, and have given one grain every other night. Where this dose produced uneasy sensations, or acted as an aperient, five grains of the pil. hydrarg. were substituted in its place; and even this quantity has been diminished in some cases. When it appeared necessary, on account of the biliary secretion, and when the calomel did not irritate the bowels, I have increased the dose. The relief, which arises from the increase or correction of the biliary secretion, in the majority of these cases, shews how much the liver is concerned in causing or aggravating the symptoms in these diseases.

There are numerous and undoubted proofs of the utility of mercury, in correcting and augmenting the biliary secretion; but the mode of administering it has not, perhaps,

been sufficiently attended to. I have known patients, who have voided nothing but blackish stools for some months, discharge fæces of a light yellow colour, denoting a healthy, but deficient secretion of bile upon taking such small doses of mercury. The effect of this change on the constitution and spirits, has been surprisingly great; though the state of the stomach did not appear to be altered. The use of mercury by inunction, sometimes acts beneficially, in correcting the biliary secretion; but, if the constitution be irritated, and weakened by that medicine, the actions of the liver are disturbed; and the digestive organs in general, become deranged. Mercury in my opinion, acts most certainly, and efficaciously, when taken into the bowels; and a much smaller quantity will suffice, when its application is in this manner rendered chiefly local.

Although experience has made me think very highly of the efficacy of small doses of mercury, in exciting and correcting the biliary secretion; yet it ought to be mentioned, that

that in some few cases, this medicine fails to produce its usual effects, and that the biliary secretion becomes healthy without its administration.

Facts are wanting, to enable us to ascertain, whether mercury ameliorates and augments the secretions of the other digestive organs, as it does that of the liver. The stomach frequently appears worse during its employment, whilst the stools are considerably better; I have, in such cases, discontinued the medicine, and returned to it again if the state of the liver made it necessary. When benefit is obtained from a small quantity of medicine, we naturally expect an increased advantage from an augmented dose; this is so natural an error, that an admonition against it appears necessary. I have observed in some instances, where small doses of mercury have unexpectedly affected the mouth, that considerable benefit seemed to arise from this circumstance. Yet it is wrong, in general, to augment the dose of the medicine, so as to create even local irritation in the bowels
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by it. In the majority of cases the disorder has existed for a long time, and has become habitual; therefore it is not likely to get well suddenly. For this reason, we should adapt our treatment to the more rational expectation of effecting a gradual recovery than a sudden cure. The most judicious treatment will not remedy the disease, if the exciting causes continue to operate; such as improprieties of diet, agitation of mind, sedentary habits, or impure air.

The following cases will afford sufficient testimony of the efficacy of such simple treatment, as I have recommended. In some inveterate cases, apparently depending on established nervous disorder, it has been ineffectual. Under such circumstances, the nervous affection appears to require the principal attention.

When the state of the health required it, or the disease did not yield to the treatment, which I have described, I have referred the case to the physician; under whose direction, benefit has been obtained by medicines of
more

more activity than those which I had ventured to recommend, conjoined with tonics, and those medicines which are usually termed nervous.

In investigating the treatment of these disorders, it is necessary to ascertain, not only what medicine is beneficial, but also what change it produces in the circumstances of the disorder. The administration of a medicine may in one case be succeeded by a discharge of bile, and a striking relief from long-continued and distressful feelings: yet the same medicine may be given in many other instances without the same consequence. Was the change then in this instance accidental? or must it be attributed to some unnoticed peculiarity in the disease or constitution?

Bark and steel are not uncommonly given in these diseases: they ought, I think, to be administered in small doses, and never when the tongue is dry; as they seem to suppress those secretions, which in many cases are already deficient; and the increase of which
would

would tend to relieve irritation in the affected organs. I mention this opinion, however, rather to account to the reader for these medicines not having been prescribed in the subsequent cases, than from any other motive ; as I do not feel perfectly competent to decide upon their degree or kind of utility.

Vegetable diet-drinks appear to me very useful in tranquillizing and correcting disorders of the stomach and bowels, for this is the manner in which they seem to be efficacious in the cure of local diseases. The vegetables prescribed in the different formulæ are so dissimilar, that we can scarcely suppose that they act specifically upon the local disease. Even Sweet-wort has obtained considerable celebrity. When diet-drinks fail to correct the disorders of the digestive organs, they also fail to produce any amendment on local diseases. Such observations have induced me to believe that they have the utility, which I have ascribed to them, of tranquillizing and correcting disorders of the stomach and bowels. It is allowable to form an opinion from such observations,

observations, though I am sensible of their invalidity as arguments to prove its truth.

Whenever circumstances would permit, I have recommended the patients to take as much exercise as they could, short of producing fatigue; to live much in the open air; and, if possible, not to suffer their minds to be agitated by anxiety, or fatigued by exertion. When the disorders, which have been the subject of this paper, have been long continued, they do not admit of a speedy cure; hence attention to diet, air, exercise, and mental tranquillity, are more decidedly beneficial than medicines. Surgeons in London meet with frequent and convincing instances of the efficacy of pure air. Patients under the irritation of a local disease, who scarcely eat or sleep in town, recover their appetite, digestion, and sleep so suddenly on their removal into the country, as to leave no room for doubting, that the change of air has produced this beneficial alteration in their health. The whole of the plan of treatment which is here recommended is so simple, and apparently so inefficient,

inefficient, that its power might reasonably be doubted, did not facts attest its utility. I should not have thought it right to have thus related it in detail, but for the purpose of avoiding repetition in the recital of the cases which are to follow; and also because it seemed right to state as explicitly as possible to the younger part of the profession, what are the curative intentions in disorders of this nature*.

* After I had written the above account of the treatment, which I had found the most successful in the correction of disordered states of the digestive organs, I was much gratified by the perusal of Doctor Hamilton's publication on the Effects of Purgative Medicines. I think there is a great coincidence in the mode of treatment which I have described, and that which is sanctioned by his more extensive experience. He prescribes purgative medicines to act as eccoprotics, to excite but not to stimulate the bowels; and he combines with them generally unirritating doses of mercury.

CASES.

C A S E S.

SECTION I.

Long before my attention was excited to disorders of the digestive organs, I had remarked that there was a paralytic affection of the lower extremities, resembling that which is produced by a disorder of the medulla spinalis, in consequence of disease of the bodies of the vertebræ. This paralytic affection also appeared to me to vary with the state of the patient's health.

These observations led me to propose a method of treatment, which proved successful in the cases of two young ladies, who were affected in this manner. The issues, which had been ineffectually kept open in the back, were healed; and the state of the health.

health in general was amended by attention to diet and medicine, by exercise, and country air. The use of the limbs returned in proportion as the health became established. Such were the observations which I had made relative to this subject, when I met with the following cases.

C A S E.

A young lady, whose stomach and bowels were disordered in the manner already described, became gradually affected with weakness in the lower extremities, and pain in the loins. The pain became at length very severe, and was aggravated in a manner almost insupportable by the agitation of a carriage. This lady could scarcely walk, and gave a description of the state of her limbs, so exactly resembling that which is sometimes consequent to disease of the vertebræ, that I thought it right to examine the spine. I struck with my finger the spinous process of each lumbar vertebra, and upon touching one in particular, the patient complained of great pain; but
pressure

pressure on the contiguous vertebræ also caused much uneasiness. Under these circumstances I placed a blister on each side of the spine, and kept up a discharge from the surface by dressing it with savine cerate. These means, with rest, relieved her sufferings; but, as her health declined, she went into the country, where she soon became much better. The blisters were now suffered to heal, and she shortly afterwards had recovered so much, as to take long rides on a rough-going horse. She returned from the country in good health, and was both muscular and fat. About a year afterwards she was so ill, in the same way, that she wished to have issues made in the back: but I would not consent to this, from knowing that the bone could not be diseased. Of this return of pain in the back, and weakness in the lower extremities, she again got well, upon amendment of her health in general. Since that period, now five years ago, she has been, sometimes, very well, at others, pale and emaciated; and these changes have corresponded with the natural or deranged state of her bowels.

CASE.

C A S E.

I was consulted on the case of a young lady, who had been blistered severely for a pain at the bottom of her back, which was chiefly felt at the junction of the ilium and sacrum. It was supposed, that disease had taken place in the bone from some injury, and had affected the sacral nerves: for she could not stand without support, so great was the weakness in the front of the thighs. There was no projection of the vertebræ. If the sacral nerves had been affected, the leg ought to have suffered the greatest share of pain and weakness; but that was not the case. She had no appetite; her tongue was greatly furred; her bowels costive; and pulse generally 110. I strongly objected to making issues in this case; but as the patients' sufferings increased, it was done. She went into the country, and died in four or five months. The bone was found, upon examination, to be perfectly healthy; but the mesenteric glands and lungs were diseased, and it was concluded that she died of consumption.

sumption. I could not learn the state of the liver, nor do I know whether its appearances were particularly attended to.

C A S E.

A young lady had been confined about six months to her chamber, on account of pain in the loins, and weakness of the lower extremities, which prevented her from standing or walking. The weakness of her limbs had been gradually increasing for a year and a half, before it became so bad as to make her incapable of moving about. Issues had been kept open, during that time, on each side of the spine; but, as the patient got no better, my opinion was asked, respecting the seat of the disease of the bone: for it was concluded, that the issues had only failed from not having been made in the right place. I found, upon inquiry, that the chief seat of her pain was in the posterior edge of the liver. Indeed, that viscus was enlarged, so as to be felt in the epigastric region, and so tender as to cause
much

much pain on being compressed, at any part, along the cartilages of the ribs. Her tongue was furred; her appetite deficient; digestion bad; bowels costive; and stools black, or else untinged with bile. I had no hesitation in advising, that the issues should be discontinued; and that attention should be chiefly directed to rectify the disorder of the chylopoietic viscera. Mild mercurials and aperients were given, by which, with other means, she got materially better in health, and was able to walk about as well as ever. The gentleman who attended this patient, met me accidentally, two months afterwards, and informed me that she was quite well. I said, that as her disease had been a long time in forming, it could hardly be expected that she should recover so suddenly. He considered this expression as implying some doubt of his accuracy, and, therefore, sent the patient to me in the morning. She came from Lambeth, in a hackney coach, and looked very well: she observed, that long before her confinement, she could not have borne the agitation of a carriage; but that now, she did not feel it.

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I have been informed, by several intelligent students, that similar cases have occurred in the hospital: as I was not a witness of these, I shall not relate them. I shall, however, mention one, which I saw, and superintended myself; although it is, in some measure, imperfect, as the patient quitted the hospital suddenly, without our knowing where he went to.

C A S E.

Thomas Crighton, aged twenty-three, was admitted into St. Bartholomew's Hospital, on account of a palsy of his limbs. About a year before, while the use of his limbs was yet unimpaired, he was attacked repeatedly with violent pain in his bowels; uniformly preceded by costiveness, and, generally, terminated by a copious discharge of loose, fetid, black stools. The relief afforded by the diarrhoea was speedy and uniform. In the course of six months his lower extremities became affected with occasional twitchings, and he found that he could not regulate their motions in walking: this increased to such a

degree as to make him incapable of taking any exercise. He had, at the commencement of his illness, a confusion of vision; and a constant and violent pain in the head. The former symptom increased so much, that he could discern no object distinctly; a candle, for instance, although held near him, appeared as large as the moon. The sensation of his lower extremities continued perfect; but the actions of the bladder were no longer under the controul of the will; the urine sometimes flowing involuntarily; and, at others, being retained for some hours, with considerable pain. He, afterwards, began to lose the use of his upper extremities: the left hand and arm were more affected than the right; but there was no difference in the affection of the leg of the same side. His speech, also, became much impaired; he hesitated and faltered considerably, and the tones of his voice were irregular, so that, at length, he could scarcely make himself understood. At the time of his admission into the hospital, there was an entire loss of voluntary motion in the lower extremities, and a great diminution in
that.

that of the upper. The bowels were deranged; there was constant head-ache; the speech was very indistinct; and vision so imperfect, that he could not read the largest print. An issue was made in the neck, and some medicines were prescribed, under the direction of the physician. As the treatment did not prove beneficial, I was desired to examine the spine, and found such a curvature and projection of the spinous processes of the upper lumbar and lower dorsal vertebræ, that, I thought, the bodies of those bones must be diseased. I was, therefore, inclined to attribute the paralysis of the lower extremities to this disease of the spine; and, consequently, directed, that issues should be made on each side of the projecting vertebræ. As this supposition would not account for the paralytic affection of the parts above, and as the bowels were deranged, I ordered two grains of calomel with eight of rhubarb, to be taken twice a week, and some infusion of gentian with fenna, occasionally. After using these medicines, for about three weeks, his bowels became regular, the biliary secretion

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healthy,

healthy, and his appetite good. He could move his hands and arms nearly as well as ever; and his eye-sight was so much improved that he could read a news-paper; indeed, it was nearly well. The functions of the bladder were completely restored*; his speech became articulate; and, his general health, in every respect, much improved. He remained in the hospital about two months, but with very little amendment in the state of the lower extremities, when his friends suddenly removed him, on account of some disagreement with the nurses, and I was unable to learn whither they had conveyed him.

The history of the preceding case was taken by Mr. Cruttwell, who had been for several years a most industrious student at the hospital, and whose accurate observation and extensive information induce me to place entire confidence in any statement of a case which I

* I have seen several cases which induce me to believe that the weakness of the sphincter vesicæ, which occasions young persons to void their urine during sleep, very frequently arises from the same cause.

receive from him. To that gentleman I am, also, indebted for the following particulars relating to a patient, who died some little time ago in the hospital, and whose body was examined. The dissection serves still further to elucidate my present subject.

C A S E.

Elizabeth Griffin, twenty years of age, was admitted into St. Bartholomew's hospital in August, 1805, on account of an inability to move her lower limbs; which was supposed to originate from a disease of the spine. On examination, however, there were no appearances, which indicated caries of the vertebræ. Her voice was, at times, considerably affected: and she was subject to occasional attacks resembling, in some degree, epileptic paroxysms. The affection of the limbs was liable to considerable variations. At times, as she assured me, she could walk across the ward with very little difficulty; at others, she could not even stand without assistance. Her tongue was extremely, and, I believe, constantly white; her

her pulse natural. Her bowels were, generally, costive, and it was necessary to employ active medicines in order to procure stools, which were always of a dark colour. A slight temporary diarrhœa sometimes happened, and she invariably remarked, that the ease or difficulty with which she could walk, and the pain in her head with which she was troubled, were in exact conformity to the state of the bowels, all the symptoms being relieved by the diarrhœa, and returning as the bowels became again costive. There was an appearance of irritability and languor in the eye, which I have before observed in these cases, and the pupils were generally much dilated. After the patient had continued in the hospital about seven weeks, she was attacked with fever, and died. To this brief account of the symptoms, I now subjoin the dissection.

No diseased appearances were observed in the brain, though it was examined with the most particular attention: neither was there any disease of the vertebræ. No disease, in short, was observed except in the abdominal viscera.

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The chief morbid appearance, in them, consisted in an ulcerated state of the villous coat of the ilium near to its termination in the cæcum. The ulcers were numerous, and situated where the mucous glands are chiefly found. The internal coat of the large intestines, also, appeared inflamed.

The liver was healthy in its structure. In the gall bladder about one ounce and a half of a light green serous fluid was found, which had not in the least degree the soapy, or mucaginous feel of bile.

Cases, like those which have been related, are not, if I may judge from my own experience, at all uncommon. They sufficiently prove, in my opinion, that local nervous disorders and muscular debility may arise from a general disorder of the health, in which the digestive organs are generally much affected. This disorder, as has been stated in the preliminary observations, may, sometimes, be the cause, and sometimes the effect, of the nervous affection. In either case, however, its correction

rection is of high importance in the medical treatment of the disease. In the case, beginning at page 79, as well as in that which immediately follows, disorder of the digestive organs must, I think, be allowed to be the cause of the nervous affection, from the sudden and complete cessation of the latter, when the cure of the former was accomplished. Decisive instances like these are particularly valuable; they shew what great nervous disorder may be produced by that of the digestive organs, and consequently how much the latter disorder is likely to aggravate the former, when it occurs even secondarily as its effect. I have seen a considerable number of such cases, which I cannot relate with precision, because I had not sufficient opportunities of observing the patients, to enable me to note the progress of the disease with accuracy.

Of these I can only observe, in general terms, that I have seen several instances of pain, imbecillity, and wasting of the muscles in one of the lower extremities, which were considered as the effect of disease about the
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hip joint; yet the event proved that there was no organic disease of that part. The disease was connected with that state of constitution that I have described, and was amended as the health in general improved. I have also seen several instances of wasting of the muscles of one of the upper extremities in children; so much indeed were the muscles shrunk, that the bones and joints could be as distinctly examined as in a skeleton. The local affection in these cases came on suddenly. I lately saw a little boy, who had had this kind of affection of his left arm several years ago, and on whose case I was at that time consulted. The bowels had been violently disordered prior to the paralytic affection, and were, at the time I saw him, in an extremely unhealthy state. I recommended that the chief attention should be paid to correct the errors of these organs, which was in some degree accomplished, and that the arm should be supported by a sling. The arm gradually recovered, and though it is not at present quite so large and strong as the other, yet the difference is so slight, that

that it would not attract the attention of a common observer. About six months ago I saw a little boy very similarly circumstanced, and in his case, the arm quickly recovered its powers of motion, as the state of the digestive organs became healthy.

I have also seen cases in children, in whom, after some general disorder of the health, accompanied by derangement of the stomach and bowels, a muscular affection of the extremities has taken place, like that which produces the varus and valgus; I mean a predominance of the actions of some muscles over others, producing distortion of the limb. I have seen this happen sometimes in one, sometimes in both the lower extremities. I have also seen the arm similarly affected.

That the local symptoms in those cases, as well as in those which have been more fully detailed, arise from a nervous affection of the brain, and not from any cause acting locally on the nerves of the affected part, will, I believe, on due consideration be granted.

I suspect

I suspect however that some persons may hesitate to admit such an opinion, from the belief that disorder of the brain must operate generally, and not partially, on the nervous system. Perhaps the contemplation of the consequences of slight apoplectic effusions in the brain, may assist us in forming just notions on this subject. Such slight effusions of blood, occurring in various parts of the brain, have been known to paralyze one leg or one arm, or the muscles of the tongue, or of one half of the face, without affecting the rest of the nervous or muscular system.

Another opinion which I wish to be considered is, whether, when there is considerable and continued paralysis, there must necessarily exist some pressure or organic disease in the brain. That this exists in many instances is undoubted; but the number of cases in which the paralytic affection is merely nervous; and independent of visible disease, is in my opinion very considerable. The instances which have been related warrant this conclusion,

conclusion, and shew such cases to be more frequent than is, I believe, generally supposed. When there is organic disease of the brain, the case seems to be very hopeless; and probably no considerable alleviation of the symptoms will take place, by that attention to the state of the digestive organs which I have recommended. In dubious cases, and such, on the first examination of them, the majority of these occurrences will probably be, it seems right to try the effect of correcting disorder of the digestive organs, with a view to alleviate nervous irritation, before we proceed to those severer methods, which the belief of the existence of organic or vascular disease in the brain would induce us to institute. For if blood-letting and counter irritation be employed, in order to diminish vascular action; or if mercury be employed to some extent in order to induce the absorption of deposited substance; these measures must aggravate that disorder of the general health, upon which, in many instances, the nervous affection depends.

My object, in the recital of the foregoing cases, is to point out a cause of local paralysis, which from its locality would, I suspect, be generally attributed to some local disorder of the nerves of the affected part. Such an opinion of the nature of the complaint would consequently lead to an erroneous treatment. If my opinion of the nature of these cases be correct, they can only be successfully treated by means which operate upon the constitution in general. I have particularly recommended that our efforts should be directed to correct any errors that may exist in the functions of the primæ viæ, for reasons that have been stated in the preliminary observations. Of the efficacy of such endeavours I have seen many more instances than I have brought forward; indeed the propriety of such attempts seems so obvious, that I doubt not but they will be made, and the effect of them will, by that means, be generally demonstrated. It is right however to mention, that in some cases to which I have attended, I have been foiled in my endeavours to correct, by the simple measures which I have related

related in the introductory remarks, the disorders of the digestive organs; and in these I thought that the disorder of the digestive organs depended on some established disease in the brain.

In other cases, when the functions of the digestive organs had been partially corrected, the nervous and muscular affections were mitigated, but not cured. Indeed sufficient time has not yet elapsed to enable me to form a probable opinion, as to the event of some cases, to which I allude. I have also met with one instance, in which the bowels became moderately correct in their functions, without any evident amendment in the state of the limbs; and I have known two instances of persons, who were suddenly seized with paralysis of the lower extremities, apparently dependent on general nervous disorder, in which the digestive organs scarcely seemed affected.

In several of the cases which I have related, there were nervous pains in the affected limbs.
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That local nervous pains may depend on general nervous disorder seems to me very probable; at least, I can take upon me to affirm, that I have known nervous pains cured by correcting the disorders, which in these cases existed in the digestive organs. In the cases also of *tic douloureux* which have fallen under my observation, there has been great disorder of the digestive organs; and I have known cases resembling those of *tic douloureux* cured by correcting the unhealthy state of those organs.

I wish finally to excite the attention of Surgeons to the state of the bowels in tetanus. The occurrence of this disorder occasionally, when the wound which produced it is healing, seems to indicate that the effects, which have been produced by its irritation, continue. It has been, I think, fully shewn, that local irritation may disorder the digestive organs; which disorder continuing, and aggravating the affection of the sensorium, may possibly lead to the production of tetanus, at a time when the wound is no longer irritable. In
four

four cases of tetanus, in which I had an opportunity of inquiring into the state of the bowels, the evacuations from them were not like *fæces*. I wish to propose, in investigating the cause of tetanus, as a question, what is the state of the bowels between the infliction of the injury and the occurrence of that dreadful malady * ?

* Such cases as I have related, with others that it would be foreign to my present purpose to mention, have impressed the opinion on my mind, that disorders of the digestive organs may originally cause, or may secondarily aggravate, a nervous disorder; and produce, as has been "mentioned, in the nervous system, an abolition of the functions of the brain; or a state of excitation causing delirium, partial nervous inactivity, and insensibility; or the opposite state of irritation and pain: in the muscular system, weakness, tremors, and palsy; or the contrary affections of spasms and convulsions." Could these circumstances be proved, it would be scarcely necessary to add, that those painful affections of parts, to which perhaps some pre-disposition exists, may be excited in a similar manner; such as gout and rheumatism. Indeed rheumatic pains are very usually concomitant upon that state of constitution, which existed in the patients, whose cases I am relating.

C A S E S.

SECTION II.

I shall next speak of those cases, in which local disorders of the head, produced by blows, are kept up and aggravated by affections of the digestive organs. After what has been observed respecting the reciprocal influence of diseases of the brain, and of the chylopoietic viscera, it will readily be admitted, that an injury of the former may disturb the functions of the latter. Thus, concussion of the brain occasions vomiting as one of its immediate consequences, and will also be found to produce almost constantly, at a more remote period, that disturbance of the digestive organs, which I have described in this paper. If the disturbance be only moderate in degree, but continued, it will often re-act upon the head,

so as to occasion an irritable state of the injured parts, and impede their recovery.

In many cases of blows upon the head, a slow inflammatory affection continues in the parts chiefly injured, and ultimately produces destructive diseases. The bone sometimes becomes diseased, or an exostosis grows from its internal table; the dura mater becomes thickened, or matter slowly collects on its surface. Such local disorders produce others of a more general nature, and destroy the patient. These occurrences are however, in my opinion, rare in comparison with the cases first described; in which a painful state of the injured parts is kept up by means of disorder existing in the digestive organs. The necessity for an accurate discrimination between these disorders, must strike us on the most superficial view of the subject; for the lowering treatment which is necessary in the first and rarer case would be detrimental in the second and more frequent. By attending to the state of the digestive organs in these dubious cases, we may be enabled to form a probable opinion

nion of the nature of the local complaint; for if there is nothing wrong in the general health to excite or maintain it, we may reasonably conclude that it is merely local; on the other hand, the inefficacy of evacuations in curing the local disease would naturally suggest the opinion, that it proceeds from irritation, and is dependent on a disorder of the health in general. It should be further observed, that when the local disease is of an inflammatory nature, and likely to induce morbid alterations in the structure of the affected parts, still it may be maintained and aggravated by disorder of the digestive organs. I have very frequently seen patients suffer so severely as to warrant a suspicion, that local disease of the most formidable nature existed; in these the usual methods of treatment were ineffectual; and they recovered suddenly or slowly, in proportion as the state of the digestive organs was corrected. I shall relate some examples of the disease under consideration, which will enable the reader to identify the case, when it occurs in practice.

C A S E.

A young gentleman, about ten years of age, fell out of a window, six feet high, and struck the back part of his head against some stones. He was stunned by the blow, but perfectly recovered from the effects of the accident by bleeding, purging, and a low diet. He caught the scarlet-fever about six weeks afterwards; and recovered from that also. But, whilst he was convalescent, the pains returned in that part of the head which had been struck, with so much violence as to induce the belief that some serious local mischief would ensue. After they had continued without abatement for a few days, I was desired to see him. He was lying in bed, and could scarcely be prevailed on to lift his head from the pillow. The integuments of the occiput were so tender, that he would hardly allow me to examine the part; I ascertained, however, that there was no fluid under the scalp, nor any inequality in the bone. He dozed a good deal, and lay in a
comatose

comatose state, but was occasionally restless. His pulse was very frequent, his skin hot and dry, and his tongue covered with a thick yellow fur. He breathed almost without moving the diaphragm, and complained much if the epigastric region was compressed. He loathed food; his bowels were costive, and his stools of a blackish colour. He was ordered to take small doses of calomel at night, and draughts with rhubarb and kali vitriolatum in the morning. The tongue soon became clean, and the stools natural; his appetite and spirits returned, and he no longer complained of any uneasiness in the head.

This case presents us with a striking example of what I believe to be a common occurrence; I mean, a disordered state of the digestive organs taking place subsequent to a considerable febrile affection. Indeed, when we reflect in how weak and irritable a state the brain must be left upon the subsidence of such a disorder, and how much the chylopoietic viscera must suffer from the impaired and disordered energy of the brain, we might naturally

naturally expect such a derangement of the functions of the digestive organs to ensue. When such disorder happens in this manner, it frequently produces many local diseases, to which the constitution may perhaps be predisposed ; a circumstance I shall speak of in a future part of this paper. In the present case, it brought on a painful state of parts recently injured, with a considerable degree of fever. That the morbid state of the stomach and bowels was the cause of both is fairly to be inferred from their ceasing so immediately, when the disorder of the digestive organs was corrected. A case of this kind, presenting an example of sudden recovery, is particularly valuable, because it clearly demonstrates the cause and the effect in such diseases. The cause can indeed be seldom so suddenly removed ; and the gradual cessation of it under any plan of treatment leaves room for a variety of conjectures, as to the mode of cure or of recovery from those disorders, which I have considered as effects. I could relate many cases of similar but less severe symptoms produced by the same cause, which gradually
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got well, in proportion as the disorders of the digestive organs were corrected. As it does not, however, appear to me necessary to accumulate instances to prove so obvious a fact, I shall content myself with adducing two more cases, to exhibit such effects in different points of view.

C A S E.

A lady fell down in frosty weather, in consequence of her feet slipping from under her, and the occiput struck against a smooth stone pavement. She was stunned by the fall, but soon recovered; nor had she for some weeks the severe symptoms, which appeared in the sequel. This circumstance shews that there was nothing produced by the blow that necessarily caused the subsequent symptoms; which must therefore be attributed to inflammation or irritation taking place afterwards. After some weeks had elapsed from the time of the accident, the parts which had been struck became extremely painful; and
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the pain extended forwards over the scalp to the right eye, the sight of which became imperfect. The integuments upon which the blow had been received were extremely tender, and the patient became faint when they were examined even slightly. These circumstances naturally induced a belief that some disease was taking place; and bleeding and purging were employed to prevent its progress. The symptoms were mitigated for a time by these means, but they quickly returned with as much severity as before. After three months the patient came to London, fully persuaded that nothing but an operation would be of permanent benefit. When I first saw her, she tottered in moving from one chair to another, and replied to questions with hesitation and effort. Her eye-sight was so much affected, that she could not read; and she entertained an apprehension that she should lose her senses. Her tongue was but slightly furred; her bowels were habitually costive, and the stools dark coloured. It was evident where the injury had been received; for the aponeurosis had been separated from
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the pericranium by an effusion of blood; and, though this blood had been absorbed, the detachment of the scalp was distinguishable by the touch. No inequality was perceptible in the surface of the bone. When I mentioned my suspicion that these symptoms were rather the effect of irritability of constitution, dependent on the state of the stomach and bowels, than of local mischief, she gave not the least credit to the opinion; but said she was persuaded that the bone was starred, and that three fissures extended in different directions. I ordered her to take five grains of the pilul. hydrarg. every second night, and a draught twice a day, containing one ounce of the compound infusion of gentian, two drams of the infusion of fenna, and one dram of the compound tincture of cardamoms. These medicines produced a considerable purgative effect. On the second day there was but little pain in the head; the patient walked about the room very steadily, and had read a newspaper in the morning. When I asked her opinion of this surprising alteration, she imputed it to the evacuations which had taken place; but she was still persuaded that the
bone

bone was injured, and still apprehensive that, without some operation, she should ultimately lose her senses. The medicines were continued in such quantity as to procure only one alvine evacuation daily. A fortnight elapsed under this plan of treatment, during which the stools became nearly of a natural colour, and the patient's health was considerably amended. There were times when no uneasiness was felt in the head; and, during some nights, the pain was so trivial as to give but little interruption to her sleep. It was, however, occasionally disturbed by pains, which were, in her opinion, as intense as at any former period of the complaint. Her pulse was good, and her muscular strength greatly improved. The occurrence of the pain in paroxysms strongly impressed me with the belief that it was nervous, rather than depending upon local disease. Under these circumstances all ideas of an operation were dismissed from my mind, but it was far otherwise with respect to the patient. Being obliged to return into the country, she considered the possibility of a relapse with horror; and was so convinced that the bone had been injured, that she

she earnestly requested it might be examined, were it merely to ascertain what was the fact. I saw no objection to this examination, but thought, on the contrary, that advantage might possibly arise from an incision, which would loosen the tension of the scalp, and produce a discharge that might relieve the irritation of the part. I accordingly made an incision of a semicircular form, extending farther back than the part which had been struck, and turned up a portion of the scalp, so as to see the bone, covered by its pericranium, to the extent of a crown piece. The bone was uninjured, and, together with the pericranium, appeared perfectly natural. The scalp being replaced, the wound was dressed superficially, without any attempt to favour the union of the parts. If they united under these circumstances, there would be an additional reason for believing, that neither the bone nor the subjacent parts were diseased. The pain was as severe for the two first days and nights after this examination as it had been at any former period; it abated when the wound began to discharge, and had entirely

tirely ceased on the fifth day. This state of tranquillity continued as long as the patient remained in town, which was about three weeks after the division of the scalp. The wound at that time had nearly healed. She has since had occasional returns of pain in the head when her general health has been disordered, but never to that degree as to induce a suspicion that any local vascular disease existed.

To exhibit the effects of the re-action of disorders of the digestive organs upon those of the head in another point of view, I subjoin the following case.

C A S E.

May 29, 1805, a labouring man, aged forty-five, fell from a considerable height upon his head, and was immediately brought to St. Bartholomew's Hospital. No fracture of the skull could be discerned: and the patient seemed to labour under the effects of violent concussion of the brain. By venesection

section and other antiphlogistic means, he soon recovered his senses. Every thing went on very favourably for three days, when he was attacked with shivering, nausea, pain in the head, impatience of light, and other symptoms, which usually are considered as denoting inflammation of the membranes of the brain. He was consequently bled; and had a blister applied on the head. He was suddenly seized in the evening with a more excruciating pain in the head, which, after lasting half an hour, was succeeded by convulsions, so violent that three men could scarcely hold him. When the fit abated, he expressed himself much relieved, and said that he was easier than before its accession. Some calomel and rhubarb were given to obviate a costive state of his bowels. On the next morning (June 2nd.) he had a return of the pain and convulsions; and the symptoms were so violent, that he was bled four times in the course of the day. This treatment, however, had no effect in diminishing the pain and other symptoms, and another fit of convulsions took place in the evening. The purgative operated
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on the succeeding night, and brought away a large quantity of highly-offensive feculent matter of a light greenish-yellow colour. On the 3d of June his breath was extremely offensive; his skin hot and dry; his pulse quick; his tongue thickly furred; and he had great tenderness in the epigastric region, and right hypochondrium. He was ordered to take two grains of calomel immediately, and a saline medicine at intervals; this produced two motions in the course of the day. By pursuing this plan for a few days, the state of his bowels was rendered more regular, and the discharges acquired a healthy colour; in proportion as this was effected, the tenderness of the abdomen was removed, and the tongue became clean. He had no return of convulsions, the pain and other symptoms subsided, and in a short time, when the digestive organs had been restored to a natural state, he went out of the Hospital perfectly well.

Cases of this description have been noted from the earliest ages. Many passages are
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to be met with in Galen, that shew that he was well acquainted with the circumstances that have been stated in this section. Bertrandi* has related instances of abscesses taking place in the liver consequent to injuries of the head. Andouillé† relates additional cases, and makes further observations on the same subject. Of late, Richter‡ has delivered similar opinions, and has directed the practice which should be pursued, when the head is disordered by the re-action of affections of the digestive organs. Still however these circumstances seem to me to be stated rather as occasional, than as occurrences which are common and naturally to be expected, and I therefore think myself warranted in supposing, that they have not made a sufficient impression on the minds of Surgeons, in this country at least.

I beg leave, in the conclusion of this section, to repeat what was said in the former

* Mémoires de l'Académie de Chirurgie, tom. 3, p. 484.

† Ibid, p. 506.

‡ Chirurg. Biblioth. b. viii, p. 538.

one, *viz.* that I consider the disease as depending on nervous irritation in the parts affected, which is either caused, maintained, or aggravated by disorders of the digestive organs. Yet as the local disease must be regarded as chiefly nervous, it might, in some rare instances, exist independently of any manifest disorder of those organs. I may further add, that much nervous irritation in any part generally excites vascular action. It becomes therefore highly important to attend to the nature and cure of such disorder, as it might ultimately lead to the production of organic disease, which would destroy the patient.

C A S E S.

SECTION III.

I proceed to speak of some diseases of the throat, skin, and bones, which so much resemble venereal complaints, that they are frequently treated as such; but which take place without any reasonable ground for attributing them to the absorption of any morbid poison. A disorder of the digestive organs constantly exists in these cases; and produces, or at least aggravates and protracts a state of weakness and irritability of constitution; to which the origin of the disease must undoubtedly be referred.

C A S E.

A gentleman residing in the country, who had been many years married, and whose

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moral character prevented any suspicion of his having exposed himself to venereal infection, had an ulcer in the right tonsil, possessing every character of a truly syphilitic sore. The figure of the ulceration was oval; it had extended itself deeply, and presented a surface covered with adhering matter, and without the least appearance of granulations. It had continued three months without amendment, although various medicines had been employed during that period. These circumstances impressed the minds of the medical attendants with an opinion, that the disease was venereal. On me they had a contrary effect. I thought that a venereal ulcer would have become materially worse in that time, as mercury had not been used to arrest its progress. Finding that the patient had a furred tongue, and disorder of the digestive organs, I recommended, as the first object of attention, the correction of that derangement of the stomach, from which the sore-throat had probably originated. The patient went to the sea-side, where his throat was alternately better and worse; but the dimensions of the

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the ulcer were not enlarged. Three months elapsed before I saw the patient a second time; when I told him, that my argument against the complaint being venereal was greatly strengthened. It was manifest that the disorder, to which I had imputed the sore, still existed. Being unwilling however that the responsibility should rest entirely upon myself, I advised him to consult another surgeon, who, judging of the nature of the sore from its appearance (which indeed was strikingly characteristical of venereal disease), recommended a course of mercury. The patient underwent, in consequence of this advice, a regular mercurial course; during which the sore got well. Between two and three months afterwards another sore formed in the palate, which had the characters of a venereal ulcer, in a still more striking degree, if possible, than the former. It was situated just where the soft palate proceeds from the bone. It was of a circular figure, and so deep as to expose the bone. The circumference of the ulcer was tumid and inflamed; its edges were not smooth,

but had a tendency to ulcerate. There was no appearance of granulations, and the discharge adhered to the surface of the ulcer. The patient now applied to me again; when I repeated my original opinion, that these sores depended on the state of his health in general. He consulted another Surgeon, who recommended the use of the Lisbon Diet-Drink, with the application of the oxymel æruginis to the part; under which treatment the ulcer healed; and no other complaint has since occurred, though two years have elapsed.

C A S E.

A gentleman, who was habitually subject in a great degree to disorder of the digestive organs, had an excoriation of the prepuce, which had continued about three weeks, when copper-coloured eruptions came out all over his body, so strikingly similar to those which are venereal, that some of his medical attendants recommended the immediate use of mercury. It was however agreed

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to delay the mercurial course for a little time ; and to give the patient half a grain of calomel, with three grains of hemlock night and morning, and a solution of magnesia vitriolata in mint-water, so as to keep the bowels freely open. The spots began to die away almost immediately, and soon disappeared altogether. The patient then mentioned that he had several times had the same kind of eruption, which had disappeared in like manner upon taking some opening medicines.

In calling the reader's attention to those diseases of the bones which resemble syphilitic affections, I shall not pretend to relate any case in detail ; for Surgeons can seldom trace the progress of these diseases for themselves, but are obliged to rely on the doubtful history given of their patients. I shall endeavour to sketch the principal parts of the subject, referring to particular cases, merely to shew that the picture is not drawn from fancy, but is copied from nature.

I have been frequently consulted on account of supposed venereal affections of the bones ;
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where the periosteum has been thickened and tender, and the bone enlarged, and the concomitant pains have been so much aggravated at night as to deprive the patient of rest. The history of the case has removed all suspicion of a venereal origin; while general indisposition, a furred tongue, loss of appetite, and other attendant symptoms, have clearly indicated great disorder of the chylopoietic viscera. By attending to the state of the digestive organs in these cases, the patient's health is amended; the general rheumatic pains are diminished; sleep is procured; and the disease has receded almost entirely. After some time has elapsed, the bone may again swell, the swelling may again be checked, and return no more. Perhaps similar diseases may take place in other bones, at times very remote from the first occurrence of the disorder. If mercury be not employed, there are decisive circumstances in the history of the disease, which prove that it is not syphilitic. Sometimes suppuration takes place, and exposes the bone: this occasionally proves a kind of crisis to the disease at that part. But the circumstances of these diseases are so variable, as to preclude

preclude a complete enumeration of their symptoms.

I shall briefly mention the cases of two patients, by whom I was consulted about the same time, in order to identify the diseases to which I allude. Both these gentlemen had been married for many years; and there was not the least reason to suppose that any morbid poison had been imbibed. They became generally indisposed, had restless nights, pain in the head and about the shoulders; and a painful thickening of the periosteum of the tibia, with enlargement of the bone, took place. The chylopoietic viscera were disordered in both these cases. One gentleman had used mercury repeatedly to a considerable extent, which produced a temporary alleviation of his disease; but his sufferings seemed to be augmented upon the cessation of the mercurial excitement. The other patient never used any mercury. They both experienced a considerable mitigation of pain from those medicines, which corrected the state of the chylopoietic organs. Their diseases were checked, and never became again so bad as before

before attention had been paid to the state of the viscera. Both these patients were better or worse as the state of the bowels varied; and they both gradually, but slowly, recovered.

Similar diseases are so common, that I believe every surgeon of experience will admit that affections of the bones, with wandering pains, often occur from general disorder of the health. I have never seen these cases unaccompanied by disorder of the chylopoietic organs; and I have always found them most benefited by whatever has tended to rectify the functions of these organs.

There was no reason, in any of the cases alluded to, to suspect the absorption of poison. I will add another, to corroborate this statement. A gentleman, who had been married about eight years, and had no venereal disease during that period, was seized with a violent fever. Shortly after his recovery, a thickening of the periosteum on the parietal bone took place. The scalp was also much swollen, so as to threaten suppuration. He was at this
time

time in ill health, and had great derangement of the digestive organs. By such attention to this latter disorder as I have mentioned in former cases, this swelling subsided, and no trace of it remained. The patient afterwards went into the country, where his health was still more amended. In about twelve months he had several tumours of the same kind in different parts of the cranium; one alone threatened to suppurate: for these he underwent a mercurial course, which relieved them, so as to induce him to persevere in it to an extent, which almost constantly cures venereal disease. His health, during the latter part of the mercurial course, being much disordered by the medicine, his diseases became proportionally aggravated; he therefore desisted from the use of mercury; at which time his complaints were but little better than at their commencement. These diseases, however, gradually got well in the space of little more than a year; still the patient continued in a bad state of health, the symptoms of which were a furred tongue, indigestion, and faulty biliary secretion.

I add another case, which came under the observation of Dr. Baillie. A student of medicine, who attended the lectures in Windmill-street, was observed to look very much out of health; and, on enquiry, it was found that he had nodes upon his shins, which so exactly resembled those that are venereal, that no doubt was entertained of their being of that nature. It was therefore earnestly recommended to him not to delay the mercurial course, which seemed requisite for the cure. He was very reluctant to comply with this advice, and declared upon his honour that he had similar swellings before he had had any sexual connection. This declaration made the mercurial plan be laid aside; and the nodes got well by a strong decoction of sarsaparilla, without a single grain of mercury being employed. Now, if this account be accurate, it shews that diseases like syphilis can arise from disorder of the health, even without any sexual intercourse.

All surgeons of experience will, I believe, admit that diseases resembling syphilis occur
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from disorder of the health in general. In all the cases which I have instanced there was not the least reason to suppose that any morbid poison had been imbibed to produce the diseases which existed. I wish much to have this point ascertained or refuted by the general experience of surgeons. The cases, which would tend to establish it, must be of rare occurrence. All the instances, to which I have alluded, occurred in men who had been long married, and on whose veracity I could rely. There is also, in my opinion, sufficient intrinsic evidence in each case to prove that the disease was not venereal. It was this kind of cases which I had in view in my last publication, in discussing the question whether those diseases, which may be denominated pseudosyphilitic, arise from some modification of the venereal poison, or from a peculiarity of constitution in the patients, who are exposed to the action of truly syphilitic virus. I have there said, that "it deserves to be observed that diseases resembling syphilis do occur, without any reason to suppose that any morbid poison has been admitted into the system."

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I have been induced to dwell upon this subject, which may perhaps be considered more speculative than useful, because, if the opinion were verified, it would explain the occurrence of pseudosyphilitic diseases in a very striking and satisfactory manner. If local diseases, resembling syphilis, may take place in the throat, skin, and bones, from a certain state of weakness, and irritability of constitution, then various modifications of animal matter being absorbed may so disorder the general health as to induce such a state of weakness and irritation, which is likely to produce those symptoms; and such symptoms are rather to be regarded as arising from the propensities of the constitution, than from the peculiar properties of the matter which is imbibed. It is shewn in my former publication, that the poison which produces pseudosyphilitic symptoms is sometimes absorbed without an evident breach of surface in the skin; sometimes from a trivial sore which soon heals; whilst, in other cases, it produces local sores of various and dissimilar characters.

If, however, the reader should doubt whether diseases resembling syphilis may arise without the absorption of infectious matter, that doubt will probably be removed by the facts which are recorded in the next Section; for it will there be shewn that various and dissimilar local diseases originate from the same source, I mean from a similar disorder of the health in general.

C A S E S.

SECTION IV.

The next class of cases, to which I shall call the reader's attention, is that of unhealthy indurations, abscesses, and sores. Sometimes but one local disease of this description exists, but in general they break out in succession in different parts of the body. The circumstance of their successive formation is, I think, a proof that they depend upon some error in the health in general; and I have accordingly observed that they are seldom, if ever, unattended with disorder of the digestive organs. The imperfect history, which the patients generally afford of their previous state of health, will not enable us to determine with certainty, that the disorder of the bowels was the cause of their ill health and subsequent

subsequent local diseases; but I can confidently affirm, that those diseases in general become tractable, in proportion as the disorder of the viscera is corrected; and that frequently no new local symptoms occur, after some attention has been paid to the state of the digestive organs. The diseases to which I allude, have not been described in books of Surgery; and indeed it is scarcely possible to delineate with precision their various appearances. It would be quite impracticable to describe all the diseases which make the subject of the present section; namely, unhealthy indurations, abscesses, and sores. They may be compared most justly, in variety and number, with the infinitely diversified combinations and shades of colour. Yet a brief and general description of them will assist to recall them to the remembrance of the experienced surgeon; and to enable the inexperienced practitioner to recognize them when they occur.

Some of these affections are quite superficial, occupying merely the skin. The first
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that I shall describe is, I believe, well known to surgeons, as a disease, which is frequently, though not constantly, cured by giving mercury to such an extent as slightly to affect the constitution. A small induration or tubercle takes place in the skin, and this is followed by the successive formation of others at small distances from the original one. The skin between these tubercles becomes thickened. Chord-like substances, which are probably indurated absorbents, may sometimes be felt, extending along the thickened skin. The tubercles ulcerate, and form foul ulcers, which heal slowly and break out again.

Another species of superficial or cutaneous ulcer begins generally in one point, and extends in every direction. The chasm of the ulcer is formed either by a very sudden ulceration, or by sloughing. A sore is left, which first secretes a sanious, and then an ichorous fluid. Granulations afterwards arise, and the sore heals. The granulations are however indurated and unsound; and when the patient supposes that the sore is cured, it is suddenly reproduced

reproduced by a process similar to that by which it was originally occasioned. After some time the ulcer again heals, and again breaks out. Whilst these processes are going on in the middle, the fore enlarges in its circumference; the edges, which are thickened, become at times highly inflamed, and either ulcerate or slough. The disposition to disease is aggravated by fits, and there are intervals when it is apparently tranquil. When this fore has enlarged to a considerable extent, in the manner already described, the central parts, which have healed unsoundly, break out into separate ulcers; and thus present an appearance of several sores, connected with each other by indurated skin or newly-formed substance.

I shall briefly mention some of the principal circumstances relating to the last fore of this description, which came under my care. The patient, who had been ill for more than two years, and had taken a great deal of mercury, came from the country in very bad health, and with his digestive organs much disordered.

dered. The sore was so painful, particularly at night, that he was in the habit of taking a good deal of opium to procure rest. It occupied the back of the hand and wrist. He had had somewhat similar sores on his head and face; but they were nearly healed, though disposed to ulcerate again. By that attention to the state of the bowels which I have described, and by dressing the sore with an aqueous solution of opium, the greater part of it was healed in the space of three weeks; and the remainder was so much amended, and so little painful, that he had left off his opium shortly after the commencement of this treatment. As the patient's circumstances made it inconvenient to him to remain in town, he went into the country, where the sore broke out again. He then applied to a person who sold a famous diet-drink; and before he had taken twelve bottles, the sore was perfectly healed, and has not since broke out. The diet-drink, he says, had no sensible operation; but his bowels became regular and comfortable, and his appetite amended by taking it.

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Another variety of these sores originates in a more deeply seated disease. The cellular substance under the skin becomes thickened, and an unhealthy abscess follows; after the bursting of which, a foul sore is formed. In consequence of this process, the fascia of the limb is sometimes exposed to view, and seems to have sloughed: when the slough has separated, the disease may get well slowly. In many cases, however, there is no exposure, nor separation of the fascia. Sometimes the sore does not extend beyond the limits of the original induration, but heals slowly; while other diseases of the same kind occur in succession in various parts of the body. In other cases, the ulceration of the original sore spreads along the contiguous parts, whilst those which were first affected get well; and thus the sore assumes an herpetic character. In many cases the ulceration extends from the whole circumference of the sore, and thus the scar and ulcerated edges have a circular or oval form; in others, the disease is propagated in particular directions, so that the

ulcerated surface presents the most irregular and peculiar figures.

These diseases sometimes are small in extent in the beginning, but enlarge considerably before the skin gives way; and, when this happens, it proves a kind of crisis to the disease, which afterwards heals slowly. In these cases it becomes the object of surgery to bring the disease to a crisis, whilst it is yet of small extent; which may be effected by producing ulceration of the skin by means of caustic.

Some of these sores are formed from diseases beginning in the absorbent glands; in which case the gland, having first been indurated, suppurates and bursts, and ulceration ensues. When this circumstance has taken place, in an absorbent gland of the neck for instance, another ulcer may form, in the manner above stated, in the skin and subjacent parts, without any gland being involved in it. A third ulcer, having a diseased gland for its cause, may form in the vicinity; and thus the disease proceeds without any regularity.

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I once thought it a necessary but most difficult task for a surgeon to remark the varieties of these diseases, in order to understand his profession, and contribute to its improvement. But, since I have found that these diseases indicate some disorder of the health in general, the correction of which is the great object in their cure and prevention, I have perceived that there is less necessity for undertaking this most arduous investigation; which, indeed, could never be accomplished without very extensive opportunities and indefatigable diligence.

It will be found in the majority of these peculiar diseases, that the patient had been indisposed for some time before the occurrence of the complaint, and, that afterwards the health had become more evidently deranged. The digestive organs are disordered. The tongue is furred at the back part, chiefly in the morning; and the biliary secretion is deficient or depraved. My attention has been directed to the correction of this disorder; and the most beneficial effects have resulted from

from this attention. The sores have healed readily in some instances; and, in those cases where many had formed in succession, no new disease has in general taken place. In some few instances, new sores have formed after the medical treatment of the disorder had commenced, and even after it had been for some time continued. This probably arises from the difficulty, which is experienced in correcting an habitual and long continued constitutional disorder. In some still rarer cases I have found similar but much milder diseases arise, after the disorder of the digestive organs had been in a great degree corrected.

Whilst I am writing this, there are four patients, whom I have attended in St. Bartholomew's hospital, with these diseases; which I mention, to shew the younger part of the profession how frequent they are. The health of these patients has been surprisingly amended in a very short period, by employing the means which I have described; and the sores have healed rapidly, although nothing but simple dressings have been applied to them.

It

It is not meant by these observations to depreciate the utility of topical applications to diseased sores, but merely to shew how much they depend on the state of the health in general; for some of them, which have remained uncorrected by a great variety of local applications, will get well under simple dressings, when the state of the constitution is amended. It is not, however, to be expected that this will generally happen; for local diseased actions have been excited, are established, and may continue, independently of the cause which produced them. Topical remedies will, under these circumstances, be employed with the greatest advantage. Again, topical applications are of the highest utility in general practice, because an irritable sore affects the whole constitution, and aggravates and maintains that disorder by which it might have been originally caused. The disorder of the digestive organs cannot in many instances be corrected, till the fretful state of the local disease is diminished. I may further mention, with relation to this subject, that I have seen patients who scarcely ever slept, from the pain
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of the local disease, whose stomachs were greatly disordered, and who had a distressing purging, which could only be controlled by opium, sleep without interruption during the night; regain their appetite, and have their bowels become tranquil and regular, when, after various trials, a dressing has at last been applied, which quieted the irritable state of the sore. It is right however to mention, that the effects of such an application are not, in general, permanent; but after a time the sore becomes again fretful, and requires some new dressing to soothe or controul its irritability.

I have seen some cases of such diseased sores as I have described, in consultation with other surgeons, who have become convinced that my opinions are well founded. Others have occurred, even in the persons of medical men, whose feelings co-operated to render their conviction more strong.

Having thus, by general observation, imbibed the opinion that the peculiarities of
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local disease depend chiefly on the state of the constitution, I shall relate some cases, which were treated in conformity with the principles which such an opinion would naturally suggest. I must, however, previously caution the reader against inferring, that I attribute all local diseases to some general error in the state of the health. I have seen local diseases, which could not be deduced from any general indisposition, nor corrected by remedies which act on the constitution at large. I wish to guard against the suspicion of being inclined to make general assertions; while I avow at the same time, that my observations induce me to believe, that the peculiarities of local disease generally depend upon constitutional causes. Reason also suggests the same opinion; for if forces of the same character break out in succession in different parts of the body, can we doubt but that they arise from the state of the health in general?

There appears to me a combination of nervous irritability and weakness, and to such a combination

tion I am inclined to attribute the peculiarities of these variable and unclassified local diseases. Perhaps I may explain my meaning further, by adverting to what happens not unfrequently in cases of venereal and other buboes. The part and the constitution have been both weakened by the disease that has occurred; they have been further debilitated by the mercury employed for its correction. The disease subsides, but a new disease and action commences; a trivial wound frets out into a phagedænic sore, which is very difficult of cure. The sores, in different cases, are nearly as various in appearance, as those of which I have been speaking. To what are we to attribute these dissimilar, perplexing, peculiar sores, if not to irritation occurring in weak and irritable parts? As the peculiar diseased actions of these sores originate chiefly from the weakness and irritability of the parts, induced by the previous disorder which they have undergone; so in their advanced stages they frequently present the best instance, that can perhaps be adduced, of a peculiar local disease exist-
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ing independently of constitutional disorder. It is true they affect the health in general; but it may, by attention, be kept in a moderately right state, and yet the sore remains unamended. The diseased actions of these forces sometimes gradually, and sometimes suddenly cease; when healthy actions succeeding, the sore heals. I remember a sore of this description, to which almost every variety of dressing had been tried without benefit. It was very extensive, and had burrowed in various directions beneath the skin. The ulceration at length became stationary; but after nine months the sore still remained as foul and fretful as it had been for a considerable time; when in the course of one week it perfectly cicatrized, leaving the hollows which I have described; for it had thrown out no granulations to fill these chasms.

Having thus stated the opinions, which I have formed, relative to these kinds of local diseases; and which were deduced from cases too numerous to record, of which I have preserved no accurate accounts; I proceed to relate

relate some cases treated in conformity to these opinions, which will, I trust, be sufficient to exemplify and illustrate the present subject.

C A S E.

A gentleman's servant, between thirty and forty years of age, was sent to me with a bad ulcer in his cheek, situated between the nose and under eye-lid. The surrounding parts were inflamed, swollen, and indurated, so as to rise fully half an inch above their natural level. The sore was of an oval figure; measuring about an inch and a half in length, and half an inch in breadth and depth; indeed I could scarcely see its bottom. The surface was covered by adhering matter of a greenish hue. The cuticle round the margin was thickened, and had in some parts scaled off. The patient had been rubbing in the mercurial ointment for this complaint. He declared that he had had no chancre for many years, but had contracted a gonorrhœa about a year before his present

present disorder. His health was much disturbed; he had no appetite; his tongue was much furred and tremulous; his bowels alternately costive and lax; his fæces blackish. I advised him to take five grains of rhubarb about an hour before dinner, and five grains of the pil. hydrarg. every second night, with castor oil or senna tea occasionally, so as to procure a motion daily. The fore was dressed with sperma ceti cerate. I saw him again in three days; when he said that he felt himself under the greatest obligations to me. He had been entirely free from pain and distressful sensations, since he began to take the medicines; although he declared, that before that time, he should have been thankful to any one who would have destroyed him. I mention this, because I have often remarked in these cases, the surprisingly great relief and comfort which have arisen from a change, produced by means apparently insignificant and inadequate. The bowels now acted regularly, and the stools were more copious and of a more natural colour, and to this correction of the biliary secretions

secretions I am inclined to impute that relief, which he so forcibly depicted. The sore had discharged profusely; the surrounding swelling and inflammation were much lessened. He pursued the same plan of treatment for a month; during which time he recovered his appetite; his tongue became clean; his bowels regular, and the biliary secretion natural. The sore had contracted into a small compass, but without the appearance of granulations; and the surrounding parts were not swollen, though still red. His health became at this time again much disordered, in consequence of his catching cold, from exposure to rain. He had pain in the bowels, with a slight purging; his appetite failed; his tongue was furred; and he had a severe cough, attended with copious expectoration. The sore on the cheek also enlarged to about one half of its former size: and the surrounding parts became tumid. I had the patient admitted into St. Bartholomew's Hospital, where he took the decoction of cascarella with squills. His cough got materially better in a short time: the state of his stomach
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and bowels also greatly improved. The sore again diminished in size. About a fortnight after his admission into the hospital, an eruption came out over his whole body. The spots were of a copperish hue, but rather smaller, and more elevated, than venereal eruptions generally are *. Some of the eruptions gradually disappeared; and, in about a fortnight, it was certain that many were entirely gone. About this time he began to complain of his throat; and an ulcer, of the size of a shilling, formed in each tonsil. The edges of these sores were elevated, and uneven, without any appearance of granulations; the surface was covered with yellow adhering matter. The patient now again caught cold: he was attacked with pain in the bowels, and purging, which obliged him to get up frequently in the night, and to remain for some time out of bed. The cough and expectoration returned: he lost his appetite; and had a furred tongue. Dr. Roberts, whom I met at the hospital, did me the fa-

* Many persons who saw this patient did not entertain a doubt but that all the symptoms arose from syphilis; it was their progress alone which evinced the contrary.

vour to prescribe for him. In a day or two afterwards, an erysipelatous inflammation appeared on the right side of his face, opposite to the situation of the sore. The eyelids were so tumid that he could not open them: the erysipelas spread to the other side of the face; and the other eye was equally closed. The fever also ran very high, and the patient became delirious; so that he was obliged, for many days, to be confined by a strait waistcoat. These symptoms gradually abated, and he recovered, so as to be in better health than I had ever seen him. He was discharged in about six weeks, in a state of convalescence; and attended Dr. Roberts as an out-patient. The eruption and sore throat had entirely disappeared; the original ulcer was firmly healed; and the contiguous skin had become soft and natural, though it was still discoloured. A year has since elapsed, and he has had no return of his complaints.

It is, I think, sufficiently evident, in the present instance, that the peculiarities of the local diseases had their origin in the state of the constitution.

CASE.

C A S E.

I was consulted, by a medical gentleman in my neighbourhood, on the case of a lady about forty years of age ; who had been long subject to dyspepsia, and severe head-aches. Her present and chief complaint had been of about three months duration. It began with weakness, and an apparent irregularity in the motions of the lower extremities, attended with considerable pains resembling rheumatism, and rigidity of the calves of the legs. These symptoms increasing, she was unable, in the course of a month, to move about at all ; but was obliged to be lifted in and out of bed. At this time an induration of the muscles of the calf of each leg had taken place. The indurated substance was about three inches in length, and between two and three in breadth. It was severely painful at times, and the integuments covering it were occasionally inflamed. There was also some pain and swelling in the ham. Leeches, sedative lotions, and mercurial oint-

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ment had been applied, cicuta and tonics had been given, but without alleviating the symptoms. I first saw the patient about six weeks after she had been obliged to keep her bed entirely; and the peculiarities of the present case led me at once to refer its origin to the state of the health in general. The appetite and digestion were impaired, the tongue was much furred, and the fæces blackish. I merely recommended fomentations to the indurated parts, considering it the primary object to correct the morbid state of the digestive organs. With this view the compound infusion of gentian with the infusion of senna and tincture of cardamoms was given, in such doses as to procure an adequate evacuation daily, and five grains of the pil. hydrarg. were taken every second night. These simple medicines were completely successful: after taking them a short time, the discharges from the bowels were natural, and properly coloured with bile. The appetite returned; the tongue became clean, and the pains almost immediately ceased. No cutaneous inflammation indicating a disposition to suppuration, appeared again

again over the indurated parts, which gradually recovered their natural state. In a fortnight the patient could go about with a stick, and in two months could walk as well as before her complaint. She has enjoyed better health, since this time, than for many years before*.

C A S E.

A gentleman, thirty-two years of age, who had been subject for several years to occasional attacks of severe pain in the bowels, was seized, about the end of August, with a violent purging, which continued for a fortnight, and was attended with fever. About a month afterwards, he felt pain in his leg at night, which became gradually continued even during the day, and obliged him

* The state of the indurated muscles, in this case, was such as would lead to the belief that suppuration would take place in different parts of the hardness; indeed, I have seen many cases less formidable in appearance terminate in that manner. Seeing how much the irritability of muscles is disordered by that state of constitution which I have been describing, I think it is allowable to conclude that most of the organic diseases of muscles originate from this cause.

to confine himself to bed. In the beginning of October a swelling was perceived near the inner ankle, which suppurated, and was opened on the twentieth of the same month. Two large tea cups full of dark brown matter were evacuated. The discharge continued profuse for some time, and afterwards diminished. Four other small gatherings then took place in succession, and bursting continued to discharge; each aperture fretting out into a foul sore. About the beginning of February I first saw this case, which was considered as a disease of the bone. The five sores had apertures in them leading to sinuses, which communicated with each other. A probe introduced into one of these, near the bottom of the tibia, could be moved upwards and downwards along the surface of the bone, which was not, however, denuded. From an upper ulcer the probe could be passed behind the bone, and under the muscles of the calf; this indeed seemed to be the original seat of the abscess, from which the sinuses proceeded to their different outlets. The integuments were œdematous, and firm to the touch; so that I could not distinctly

tinctly feel the outline of the tibia; but I thought that the bone was not altered either in form or size. The firmness with which the patient stood upon the limb, and the want of aching pain in the bone contributed also to make me believe that it was not diseased, and that the whole disorder consisted in an unhealthy abscess, the discharge from which had caused various sinuses in the manner already described. I could not but attribute such a disease to a general disorder of the health, and indeed the patient's countenance and appearance indicated a constitution much weakened and harassed by illness. His tongue was furred, and the discharges from the bowels were irregular, deficient in quantity, and of a blackish colour. With a view to the correction of these symptoms, I directed the patient to take five grains of the pil. hydrarg. every second night, and the infusion of gentian with senna, so as to procure one motion daily. But little benefit was obtained by these measures; and in about a fortnight afterwards a thickening of the integuments took place over the fibula; a considerable swelling gradually arose, and another abscess formed, which

which burst in about three weeks, and discharged a considerable quantity of brownish matter mixed with blood. During this time the limb was merely poulticed, and the patient could not leave his bed. His pain was extreme, and he had no rest at night. The use of opium was necessary to alleviate his sufferings, and opening medicines occasionally to procure stools. He took but little nourishment, and his health greatly declined. The disordered state of the stomach and bowels was much aggravated by this local irritation. Indeed, the situation of my patient was now particularly perplexing. The local disease made the general health worse; and the aggravation of this general disorder, which appeared to have been the cause of the local disease and of its continuance, proportionately increased the latter malady. The confinement to bed afforded an additional obstacle to recovery; yet it was impossible to remove him in his present state, on account of the pain which motion occasioned. The leg was insupportably painful in a dependent posture. As change of air and exercise seemed essential to his recovery, I was induced to try if Mr. Baynton's
excellent

excellent bandage, by supporting the weakened vessels, would prevent their distention, and the consequent pain. The sores were dressed, after as much matter had been expressed from the sinuses as could be done without occasioning pain. Strips of sticking-plaster were applied after the manner of a many-tailed bandage; and the limb was afterwards rolled with a calico roller. The patient felt comfortable, and found his limb strengthened. He was directed to wet the roller, if the parts became heated. The effect of this treatment was surprising both to the patient and myself. The pain, which had been constant before pressure was employed, ceased from the time of dressing till five o'clock on the following morning; but from that time it gradually increased till noon, when the dressings were renewed. The cause of this occurrence now became manifest; for, upon opening the bandage, more than a tea-cup-full of matter was discharged from the different sinuses. I dressed the limb as before, cutting holes for the escape of the matter opposite to two of the chief sinuses. I desired the patient to put his leg to the ground, in order
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to ascertain the effect of the perpendicular position when the vessels were supported; and he experienced no inconvenience. This day passed, as the former, without pain; and, as the matter poured into the sinuses readily escaped, he had no uneasiness from its detention. I recommended him to sit up, and put his leg to the ground several times in the day, in order to accustom it to that position. After I had dressed it on the third morning, the patient stood up, and took two or three steps very feebly; but this was rather the effect of general weakness than of particular infirmity in the diseased limb. I now advised him to go a little way out of town in a carriage. The air and exercise, together with the freedom from pain, produced a very beneficial effect. He began to recover his appetite, slept at night, and acquired so much strength, that he was able in a week to go about his house, and to resume his attention to business. The discharge from the sinuses was very trifling, and the sores looked much better. The patient now undertook to dress his leg himself, and hired a lodging out of town, so that I only saw him occasionally. His limb was
so

so much amended in the course of a fortnight, that it caused no more trouble than that of daily dressing. But his health was not good. His countenance had the same expression of illness as when I first saw him; his tongue was white and dry; his bowels costive; and the stools of an unhealthy colour. I therefore recommended him to take again the same medicines which I had formerly ordered him. His health now improved; his tongue became moister, and less furred; the bowels more regular; and the feces coloured with a more healthy bile. He continued recovering till the middle of April, when he began to complain of the trouble of applying the sticking-plaister, and used the calico roller alone. I did not see him for three weeks, and then found him in a very desponding state. He complained of the tediousness of his confinement, which had lasted more than half a year, and said that he would willingly submit to have the sinuses laid open, if that would make him well. I found his leg well, excepting two orifices near the tibia; three ulcers, which formed the apertures of as many sinuses, had healed;

healed; the outline of the bone could be distinctly felt; and there was no alteration of it in form or size. I was unable at first to account for this despondency under such favourable circumstances; but I soon discovered that it was the effect of hypochondriacism. For his tongue was much furred and dry; and at the same time that he left off the bandage, he had also discontinued his medicines. I urged him to return to them immediately; and called on him again in ten days, when he perceived clearly the absurdity of his late despondency, as well as its cause. He called on me on the 10th of July, with a new swelling near the upper part of the tibia, which threatened to form an abscess, similar to those which had formerly taken place. I covered the limb with the bandage of sticking-plaster, as at first. The new disease disappeared entirely; and the old ones were so much benefited by the exact and equal pressure, that the patient felt no difference between the sound and the affected limb. The ulcers gradually healed, and his health is better than it has been for some years: yet still there is an evident

dent tendency to disorder of the digestive organs.

If upon an extensive and accurate examination of the subject it were to appear that many very peculiar and very dissimilar local diseases originate from a common cause, namely from weakness and irritability of the system in general, our enquiry would be further extended, and we should feel anxious to know whether similar causes may not operate in the production of more common and more frequent local disorders. As far as my late observations have enabled me to determine, that state of the digestive organs, which I consider as denoting constitutional disorder, exists prior to the formation of a carbuncle; and is exacerbated during the progress of that disease. This opinion indeed will appear probable, if we consider the kind of persons who are attacked with carbuncles, and the considerable derangement of health, which even a trivial local disease of this nature occasions. I shall mention but one case in support

port of this opinion, though I have made similar remarks in several other instances.

C A S E.

I attended a gentleman, who was afflicted with carbuncles, during three successive attacks, at the interval of about a year between each. I made an incision through the indurated skin, down to the subjacent floughy cellular substance, and thus brought the local disease to a crisis. This treatment was sufficient in the two first attacks; the extension of the disease was prevented; the floughs separated, and the wound healed. The patient, whose mode of life was intemperate, had cough; difficult respiration; fullness and tenderness of the parts situated in the epigastric region; unhealthy secretion of bile; and in short, all those symptoms which denote a very considerable degree of disorder of the digestive organs: it is probable indeed that some organic disease of the chylopoietic viscera existed. After he had recovered from
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the carbuncle, I told him that the most important disease still existed; and urged him to be attentive to his diet, and to the directions of his medical attendants. He still however continued to live intemperately, and his disorder increased. He was indeed nearly dying from diseased viscera, when he was attacked with carbuncle for the third time. The division of the parts produced a temporary cessation of the disease; but it began again to spread in every direction from its circumference, and he died.

It will not, I believe, be doubted, that boils are a slighter degree, with some variation, of the same disease, which causes anthrax and carbuncle; and it is almost unnecessary to remark, that some persons are subject to a successive formation of very large and troublesome boils from the least irritation of the skin. I have seen many persons thus affected; and there has been in every instance disorder of the digestive organs, the correction of which has prevented the return of these vexatious local diseases. One gentleman,

tleman, who had been tormented for many years by the quick successive formation of boils as large as eggs, has been free from them for some years; though he has had other disorders which denote such a condition of the constitution, as it has been my object to describe in this paper.

I have remarked in many instances that diseases of the absorbent glands, such as are usually and justly denominated scrofula, occurring in adults, have apparently originated from the disorder which I have described. In several cases the local disease was of long duration, and had become worse rather than better under various plans of medical treatment; yet it amended regularly, and sometimes even quickly, in proportion as the state of the digestive organs was corrected. I need not detail any cases on this occasion, since every surgeon must know them familiarly. The patients are commonly sent to the sea-side, or into the country; where enlarged glands subside, and those which have suppurated and ulcerated heal; and the local
disease

disease recovers, in proportion as the health in general is amended.

There are cases of scrofulous diseases occurring suddenly, and in various parts of the body at the same time, which seem to originate in that state of health, which is occasioned by disorder of the digestive organs. I have chiefly observed these cases in children; and they have followed some violent febrile affection. In two cases which I shall particularly mention, the small-pox was the antecedent disease. I have already stated, that when the health has been considerably disordered by some violent disease, the digestive organs may become subsequently affected; and that this disorder proves a cause of many secondary diseases.

C A S E.

A child of two years old had the small-pox, from which he did not seem to recover, but, on the contrary got into a very bad state
of

of health. The absorbent glands on the right side of the neck became enlarged in succession, so as to form altogether a very considerable tumour, which extended down to the collar bone. The axillary glands then became affected in the same manner; the swelling was unusually great, and seemed to extend under the pectoral muscle, elevating it, and forming by this means a continuation of tumour, with the glands of the neck. These swellings had partially suppurated, and had broken in two places, viz. in the neck, and about the margin of the pectoral muscle: but no relief followed; on the contrary, the mass of disease seemed to be rapidly increasing. The child was bowed forwards, so that the spine was much curved in the loins; the left leg appeared paralytic; and a swelling was perceived in the abdomen, which I could not but ascribe to an enlargement of the external iliac glands. The child was extremely emaciated; his skin felt hot and dry; his tongue was covered with a brown fur; and the stools were black and highly offensive. As there was no expectation that he could survive this desperate

desperate state, those medicines only were prescribed that seemed likely to correct the state of the digestive organs; such as occasional doses of calomel and rhubarb. A strict attention to diet was also recommended. Under this treatment the stools gradually became natural, and the tongue clean. The disease seemed to stop immediately. As the health was restored, the swellings rapidly subsided; and the child became one of the healthiest and stoutest of the family.

C A S E.

A female child, after having had the small pox, got into bad health from disorder of the digestive organs. She was then suddenly attacked with a serofulous affection of the knee and elbow of the opposite sides of the body. Two collections of fluid had taken place beneath the fascia of the leg and thigh. The joints were greatly enlarged, and the swelling was apparently caused by an increase in the size of the bones. Had I seen either

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joint,

joint, as a single case of disease, I should have said that it would leave the child a cripple. It was manifest, in the present instance, that these diseases were the consequence of ill-health; and that the first object was to correct the general disorder of the system. The functions of the digestive organs, which were deranged, were restored to their natural state, by employing the same diet and medicines which had been so signally successful in the preceding case. By these means the health was re-established, and the local diseases gradually disappeared.

I have heard it remarked by surgeons of great experience, that patients often recover when many scrofulous diseases appear at the same time; although some of them may be so considerable, that they would seem to warrant amputation had they appeared singly. The cases which I have related afford a most clear and satisfactory account of the mode of recovery. General irritation and weakness bring on diseases, to which perhaps a pre-disposition may exist, in several
parts

parts of the body; these cease when their exciting cause is removed.

After having attempted to shew that pseudo-syphilitic and many other non-descript diseases arise apparently from the state of the constitution, and that carbuncle and scrofula are sometimes consequences of the same cause; it may be enquired, whether all these various affections originate from a similar disorder of the general health. If the same general disturbance of the health can produce a great many varieties of local disease, it may produce many others, and even every variety *. If the actions of any part of the body are excited by accidental causes, it may be reasonably inferred that, in a state of health, they will be simple and common, unless the stimulant is of a peculiar nature. But if these actions are specific and diseased, we naturally conclude that the cause of their becoming

* Even in cancer, disorder of the digestive organs appears to be antecedent to the local disease, and aggravated by its existence; but whether this disorder be the effect or cause of the constitutional diathesis cannot be at present determined.

so is constitutional. The occurrence of similar local diseases in different parts of the body, furnishes an additional proof that the cause of such diseases is constitutional. But although the cases related in this paper naturally suggest an opinion that there is some constitutional cause for the production of local diseases, they do not amount to a complete proof. Indeed I have never investigated this point particularly, though it deserves and admits of examination.

The subject may be viewed in another way : weakness and irritability occurring bring on those local diseases, to which a pre-disposition exists; and thence the connexion which I have observed of such diseases with impaired health may be accounted for. The cases contained in this paper are, in my opinion, insufficient to determine whether the constitutional disorder is to be regarded as the exciting or the pre-disposing cause of the local disease.

I have also observed that diseases of particular organs seem to originate, in many instances,

instances, from disorder of the system in general. The testis of the male subject, and breast of the female, have furnished me with examples of this observation. In the cases to which I allude, the testes were alternately affected, enlarging considerably, and then subsiding *. I have met with numerous and interesting cases of such diseases of the breast; however, the relation of a few will be sufficient to inform the reader of all that I know concerning this subject.

C A S E.

A lady came to London, to submit to the removal of a diseased breast, if it should be judged necessary. The disease had existed for more than two years. The breast of the affected side was one third larger than the

* The cause which excites and maintains alternate irritation and disease of the testes, generally resides in the urethra; but there was no disease of that part, in the cases which I now mention. The patients first became unhealthy, and disorder of the testes followed. Similar affections are not uncommon in pseudo-syphilis.

other;

other; indurated in several parts; and so much enlarged and hardened in one place, that this might have been taken for a distinct tumour on a hasty and inattentive examination *. This part was situated near the margin of the pectoral muscle. The disease had resisted the various means employed with a view to disperse it, such as leeches, lotions, mercurial ointment, &c. It was occasionally painful, and caused the patient so much mental anxiety, that the surgeon, who attended her in the country, thought it should be removed. The mammary gland of the opposite side was far from being in a perfectly healthy state; which circumstance appeared to forbid an operation, since the same disease might take place afterwards in the opposite breast. The patient's general health was much impaired, her tongue was furred, her appetite deficient, her digestion

* It may not be improper to observe here, for the instruction of the younger part of the profession, that if a breast containing a portion which is particularly indurated be examined with the points of the fingers placed circularly, the disease will feel like a separate tumour; but if the flat surface of the fingers be moved over it, its true nature will become manifest.

imperfect;

imperfect; the biliary secretion was disordered, and the bowels costive. I ordered her to take a compound calomel pill every other night, five grains of rhubarb half an hour before dinner, and the infusion of gentian with fenna, so as to procure a sufficient evacuation of the bowels daily. Linen moistened in water was applied to the part in the evening, or when it felt painful and heated. This plan of treatment reduced the bulk of the diseased gland by at least one third in the course of a fortnight. The patient went afterwards into the country, still employing the same medicines; and was entirely free from the disease in three months, though she felt occasional shooting pains, which probably indicated that her health was not completely re-established.

C A S E.

A lady consulted me on account of a considerable swelling of the breast, attended with much pain. It had come on suddenly, and had been painful about a week; but she thought

thought that a lump had existed previous to this time. The principal tumour was on the side next the sternum, and was as large as an hen's egg; it seemed to be distinct, yet there was a general swelling, with partial induration of the substance of the gland. The tongue was furred, the bowels costive, and the pulse frequent; and she was, to use her own expression, very nervous. I directed her to use the same means as were mentioned in the preceding case. Small doses of mercury act beneficially on the bowels, by inducing regular and healthy secretions; and I know no better method of administering it as a discutient. The general induration of the breast and tumefaction of the integuments subsided quickly under this treatment, and left the lump in the same state which I supposed it to have been in before the attack of general swelling and pain. In another week this apparently distinct tumour was flattened on its surface, diminished in size, and confused with the substance of the mammary gland. Its form varied each successive week; it first became oblong, and afterwards seemed to separate into two parts; but in less than six weeks no trace of it could be felt.

CASE.

C A S E.

A medical man, who resides in the country, brought his daughter to town for advice. She had apparently a tumour in her left breast, between the nipple and the axilla; in which part she had felt a good deal of pain. The swelling was of very considerable size, and the breast so tender, that I could not exactly make out whether it arose from distinct tumour, or from a partial enlargement of the mammary gland. Want of time prevented the patient's father from shewing the case to another surgeon. I could only give him this opinion; that in the present circumstances no one would think of an operation. I recommended the application of the *lotio ammon. acetat.* when the part felt heated; and as the patient had disorder of the stomach and bowels to a great degree, that the chief attention should be paid to the state of these organs. A grain of calomel was directed to be taken every second night; rhubarb before dinner, and *infus. gentian. and fenna*, if necessary.

About

About two months afterwards, having occasion to be in that part of the country where the patient resided, I called on her. Her father then told me that the swelling had subsided considerably, after his daughter's return in the country; and that of late he had not examined the complaint, as she told him she felt no uneasiness from it.

When I now examined the breast, I could not perceive any difference between it and the other. No vestige was left of a disorder, which had been of such a magnitude, as to occasion considerable alarm; a circumstance that excited the greatest surprize in the mind of her father, who was a practitioner of much experience*.

Before I had paid attention to those complaints which arise from, or are aggravated by constitutional causes, I could not have believed that such considerable local diseases, after resisting various topical and general

* I have also known cases of induration and suppuration of the salivary glands, apparently caused by the same general disorder, and cured by the same treatment.

means, should give way so readily and completely to small doses of medicine. It is only by considering the manner in which this effect is produced, that the subject can be placed in a proper point of view.

An attention to the state of the bowels is indispensably necessary, even in the common practice of surgery. A simple cut of the finger frets into a bad phagedænic sore, which resists every local remedy so long, that amputation is at last proposed. This is the consequence of bad health, which in its turn is aggravated by the irritation of the sore. The patient has a furred tongue, with other symptoms of disordered digestive organs. An attention to this disorder corrects the painful state of the sore, which now heals rapidly under simple dressings.

A patient has a disorder in the urethra, almost too trivial for surgical attention; yet producing much inconvenience. The functions of the digestive organs are impaired, and he is hypochondriacal. He consults a
physician,

physician, under whose care, his general health is amended, and he no longer feels or thinks of the local disease.

An erysipelatous inflammation of the leg is imputed to some trivial cause; as for instance a gnat-bite. It becomes worse under the common remedies. The health has been long declining, and the chylopoietic viscera are obviously deranged. The erysipelas is quickly cured by medicines prescribed for that disorder.

A patient supposes that his knee is strained; for pain and inflammation of the joint suddenly come on, with deposition of fluid into the articular cavity; this attack is attended with fever, furred tongue, and unnatural discharges from the bowels. Leeches, cooling washes, and poultices, in short, all topical applications are unavailing. It is a case of rheumatic inflammation, for which a physician is consulted. Five or six weeks elapse without any abatement of the disease, the patient being almost unable to stir in bed.

An

An alteration in the health suddenly takes place; the tongue becomes clean; and there is no longer any pain in the knee. All the fluid is absorbed from the joint in two days, and the patient walks about his chamber. Or there may actually have been some local injury; but the consequences are very considerable and violent, and quite incommensurate to the cause. Such occurrences can only be assigned by imputing the effects to the state of the health in general. I could relate a great number of cases to illustrate this subject, but it does not seem to me to need any further exemplification*.

I again repeat at the conclusion of this section, that though I admit the possibility of the existence of diseases strictly local, and have adduced some instances of them, I consider the diseases, which I have been describing, to arise from disorder of the health in general, which is

* As operations are injuries, so we ought not to perform them when the constitution is in this state. I could relate several instances of the wounds made in operations, assuming diseased actions from such a state of the constitution.

often caused, though sometimes merely aggravated, by disorders of the digestive organs; and it follows, if this view of the subject be correct, that such diseases may sometimes exist, without any manifest disorder of the digestive organs. The disorders of these viscera may act in a two-fold manner on the constitution; they may be the cause of an impure or imperfect state of the blood, and they may cause or aggravate nervous irritability. Whether in consequence of such effects they are to be regarded as the predisposing, as well as the exciting causes of such diseases as I have described, is an enquiry very worthy of investigation; but it does not appear to me to be determinable by the facts which have been recited.

C A S E S.

SECTION V.

Disorders of parts which have a continuity of surface with the alimentary canal.

I had formerly observed spasmodic strictures of the œsophagus to disappear under various modes of treatment, in a manner which I did not understand. Mercury seemed to effect the cure in three instances. Many cases have occurred to me lately, in which the irritation in the œsophagus seemed to be first excited and afterwards maintained by disorder of the digestive organs. It will be readily allowed, that spasmodic strictures of the œsophagus, when long continued, may cause a thickening in the affected part of the tube, and thus the stricture may become permanent. One instance will be sufficient to illustrate

trate and verify this view of the subject; indeed I merely wish to excite attention to this subject, for I am incompetent to give an opinion as to the frequency or degree, in which affections of the stomach produce these disorders.

C A S E.

A lady, who had been in bad health for many years, and was supposed by her medical attendants to have a stricture of the œsophagus, became at last incapable of swallowing any food, except in very small quantities; she was even then obliged to drink some fluid after each morsel, to facilitate its descent into the stomach. Some mucus and blood rose into the mouth after vomiting, which very generally followed the taking of food. Under these circumstances, I was requested to pass a bougie, in order to ascertain the state of the œsophagus; but I declined this examination, on account of the disorder which existed in the stomach. The tongue was greatly furred; the parts in the epigastric region

region very tender: the bowels much disordered; the secretion of bile either very unnatural, or entirely wanting; every symptom, in short, which indicates an aggravated form of disorder of the digestive organs, existed in a striking degree. The stomach and bowels were brought into a better state by such medical attentions as I have already so often described; and the œsophagus partook of this amendment: for moderately sized morsels of food could now be swallowed without the necessity of washing them down by liquids. The general health also improved, and she became fat. But the disorder of the digestive organs, which had been of long continuance, was not completely subdued; she was still subject to relapses, and in some of these the difficulty of deglutition again occurred.

The throat and mouth are the parts next in order; but it is unnecessary to relate additional cases under this head: some of the instances already recorded will be sufficient to confirm my sentiments on this subject,

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and

and the propriety of the practice which I have recommended.

That diseases of the nose may be caused or aggravated by irritation arising from the stomach is a proposition, which will, I think, be readily granted. Indeed it seems surprising that the operation of this cause has been so little adverted to in books of surgery; since the phænomena which prove the fact are so well known. Are the monstrous noses, caused by excessive drinking of vinous and spirituous liquors, to be otherwise accounted for, than by irritation arising from the stomach? And do not worms in children cause a teasing sensation in the extremity of the nose? I had seen in private practice, several cases of irritation and swelling of the end of the nose, in some instances accompanied with small ulcerations of the pituitary membrane. In these cases, the skin over the nose, which was tumid, became rough and discoloured: the middle of the discoloured part became sound; whilst the circumference retaining its morbid actions, the disease there spread in a small degree. In these cases

cases the tongue was furred; and there were evident indications of disorder in the stomach and bowels. The disease was checked, and cured, by attention to this disorder. I was strongly impressed with the opinion, that if these cases had been neglected, they would have terminated in that herpetic ulceration, which so often affects the end of the nose. I have also seen several instances of that herpetic ulceration in its confirmed state more materially benefited by medical attention to correct the disorder of the digestive organs than by any local application: and I feel confident that it may be frequently cured by such endeavours.

I have observed, in all the cases of that noisome and intractable disease, ozæna, which have come under my care lately, that the stomach and bowels have been disordered; and more benefit has been obtained by endeavouring to bring these organs into a healthy state, than by all the local applications which had been previously tried. I stated to a medical friend my opinions respecting one patient

who came from the country, and begged to know the effect of the treatment which I had proposed. He informed me, after some months, that he had not been able to succeed in correcting the visceral disorder; and after relating the means which had been used, he adds, "The patient was now attacked with a bilious disorder, to which she had formerly been subject, and for which I gave her six grains of calomel in a bolus, which soon relieved her. During this attack the nose seemed well; there was no fetor in the discharge, and she recovered her sense of smelling." However the disease returned afterwards as before.

In farther confirmation of the opinion, that diseases of the nose depend much upon the state of the stomach, I shall mention the case of a woman, who had a disease of the nose, which I expected would, at least, prove very tedious and very troublesome, but which got well speedily under simple dressings, in consequence, as appeared, from the effect of internal medicines.

CASE.

C A S E.

This patient was between thirty and forty years of age; had a furred tongue, bowels alternately costive and lax, and their discharges discoloured. An enlargement of the left alar nasi, caused by a great thickening of the parts covering and lining the cartilage, had gradually taken place. The skin was discoloured, and an ulcer, about the size of a sixpence, had formed on the under surface of the ala. The sore was deep, with a sloughing surface, and uneven and spreading edges. Spermaceti cerate was employed as a dressing; and the external skin was frequently bathed with Goulard's wash. She was ordered to take internally five grains of rhubarb an hour before dinner, five grains of the pil. hydrarg. every second night, and the infusion of gentian with fenna occasionally. The sore ceased to spread, the swelling gradually subsided, and all diseased appearances were removed in the course of a month. The patient also found her health considerably amended.

In

In most cases of deafness, there is probably a state of irritation, and a tendency to inflammation, throughout the passages of the ear. The external meatus is unusually sensible, the secretions being either suppressed, or discharged in an unnatural quantity. The lining of the eustachian trumpet is thickened; and hence it becomes partially obstructed. It must be admitted that such a state of the organ is likely to be aggravated by a cause, which maintains or produces irritation in the nose. When dullness of hearing also depends on a torpid state of the nerves, it may be caused by the same circumstance, which is known to affect the sensibility of other nerves.

Indeed, I have remarked that the hearing of many persons has considerably varied with the state of their health in general; so that I felt no surprise from the occurrence related in the following case.

A gentleman applied to me on account of some pseudosyphilitic symptoms, which I told him would gradually become well. I advised
him,

him, at the same time, to be particularly attentive to the state of his digestive organs, which were generally disordered by the effects of the poison. He took five grains of the pil. hydrarg. every second or third night. The disorders for which he had consulted me were all removed in the course of two months; when I received a letter from him, saying, that he thought it a duty he owed to me and to the public to inform me, that the lenient course of mercury, which I had recommended, had cured him of a considerable degree of habitual deafness.

It is well known that ophthalmia frequently arises from constitutional causes; and in such cases the digestive organs are generally deranged. The health will be most speedily restored, and the local disease most effectually diminished, by correcting the disordered state of the abdominal viscera. There is no necessity for enlarging upon this subject; yet it may be useful to state what I have observed respecting those ophthalmies, which take place subsequently to gonorrhœa, and which have
generally

generally been ascribed to a retropulsion of that disorder, or to the accidental application of the discharge to the surface of the eye. In the worst of the cases which I have seen lately there was considerable redness and irritability of the eye, lasting nearly a fortnight. The digestive organs were deranged in all the cases to which I allude; and I attribute the comparative well-doing of these patients to the attention which was paid to their correction, and to tonic and stimulating applications, as a solution of *zincum vitriolatum* to the surface of the globe, and *unguentum hydrargyri nitrati* to the eyelids. In other cases, which I had formerly been witness to, where evacuations by bleeding and purging, &c. were employed, the disorder was extremely obstinate; nay several patients lost their sight.

That cutaneous diseases* are much connected with the state of the stomach, is generally

* It may perhaps be right to advert to the direct and sudden sympathy which exists between the skin and the stomach. In affections of the latter organ, the skin is dry and cold, moist and cold.

rally known. Hence various medicines have been recommended to correct disorders of that viscus, with the view of removing the more evident, but consequent disease of the skin. The account, which I have given of disorders of the digestive organs, may lead to a more rational and less empirical treatment, and to the more just appreciation of the value and mode of action of remedies, which are sanctioned by experience. It is almost superfluous to relate any case to authenticate so well known a fact; the following, however, may be found interesting and instructive.

A patient in St. Bartholomew's hospital had an herpetic disease of the skin. This had

cold, hot and dry, or moist and dry; and it suddenly changes from the one to the other condition, as the state of the stomach varies. When the digestive organs are disordered, the irritable state of the skin is manifested by the effects of blisters and other irritating applications. A blister produces a tormenting local disease, and even a Burgundy pitch plaster causes extensive erythema. Indeed, when the constitution is irritable, all the modes of counter-irritation, which surgeons employ under other circumstances with success for the cure of local diseases, are likely to do harm; and thus these curative methods obtain discredit in consequence of their ill-timed employment.

healed

healed in the middle, and spread in the circumference to such a degree, that it occupied nearly the whole length of the leg, and included two thirds of its circumference. The skin had recovered a moderately sound state in the centre. The disease was propagated in the circumference by an ulceration, which threw out a projecting and firm fungus of a tawny colour, of about half an inch in breadth. A small groove or channel separated this fungus from the surrounding inflamed skin, which had not yet ulcerated. A similar disease occupied the back part of the arm; this was of an oval figure, and resembled, in every circumstance, that which I have already described upon the leg. These diseases had existed for nearly two years, and continued to spread in opposition to every mode of treatment. Mercury had been employed, even to salivation, without any marked alleviation of the local complaint. I immediately perceived that the digestive organs were greatly deranged: upon correcting this disorder, the skin surrounding the disease became pale; and all disposition to spread ceased. The fungus, however,

however, still projected, and did not heal; it was therefore dressed with a weak solution of kali arsenicatum. This remedy seemed to subvert the diseased actions, which had produced the fungus; so that, in less than two months, the patient was discharged from the hospital perfectly well.

I have seen similar herpetic diseases, of much less extent, succeed to the absorption of matter from sores upon the genitals. These have got well when the patient has gone into the country, and appeared again when he has returned to town. They have healed under a course of mercury, and broken out again when it was discontinued.

In this review of disorders, occurring in parts having a continuity of surface with the digestive organs, I have traced them from the stomach. Another set of diseases may originate from the same source. The large intestines suffer more in advanced stages of these disorders than the smaller ones; hence disorders of the rectum, and particularly many
irritable

irritable diseases about the orifice of that bowel, are deducible from this cause. I shall not, however, prolong the account by the relation of cases ; but content myself with assuring the reader, that the opinion has been derived from facts, and not from preconceived notions of the operation of such disorders.

SECTION VI.

IN this Section I shall mention what information I have obtained by dissection, relative to the causation of other diseases by those of the digestive organs. The reciprocal sympathy, which exists between the brain and the digestive organs, is generally admitted; but the kind and the degree of the effects arising from this sympathy, is not, perhaps, in general, sufficiently understood. These organs mutually increase each other's disorder; till the affection of the sensorium leads to the greatest disturbance of the nervous functions, and even of those of the mind.

All this may happen without any visible disease of the brain. Dr. Kirkland particularly directed the attention of medical men to nervous apoplexy; and the observations, which have been made since that time, have proved, that not only a general derangement of the
functions

functions of the nervous system producing apoplexy, but also partial effects of a similar nature causing hemiplegia and paralysis, may take place, without any visible change of structure in the brain. I have met with numerous instances of this kind; but could not determine whether the affections were merely nervous, or whether they were produced, or aggravated by disorder of the digestive organs. I only know, that the patients died affected by apoplexy, hemiplegia, or more local paralysis, without any derangement in the evident structure of the brain. I may also mention, that I formerly examined the brains of three persons who died in a comatose state, in consequence of the metastasis of rheumatism. In these cases no morbid appearance was observed in the brain, except some slight marks of inflammation of the pia mater. It therefore appears clearly to me, that disorder and abolition of the nervous functions may take place, without any organic affection of the brain. The perfect recovery of patients, which sometimes happens, after such disorders, may also be considered as additional evidence

evidence of there having been, in such instances, no organic disease of the brain.

There can be no doubt but that epilepsy may, in like manner, take place without any morbid alteration of the structure of the brain, or its membranes. Some of the persons whose heads were examined, without the discovery of any disease of those parts, had been subject to attacks like those of epilepsy. Dr. Henry Frazer has, of late, published a decisive instance in proof of this fact. A patient died of epilepsy, and his brain was examined with particular attention, by Mr. Cooper, without any morbid alteration of structure being discovered*. In general, however, morbid appearances are evident in the brains of those persons who die of epilepsy. Tubercles are most frequently met with. There is, however, a disorder of structure which I wish briefly to mention, as I do not find that it has been noticed. In two persons, who died of epilepsy, I found the medullary substance of each hemisphere altered from its natural

* See Frazer on Epilepsy, page 39.

structure; it had lost its natural firmness, and smoothness of surface, and appeared like thick curdled cream.

Now, if disorder of the digestive organs is capable of causing or aggravating nervous disorder, even to the production of those effects which have been mentioned, when there is no alteration of structure; it must be granted that such a state of irritation of the sensorium may lay the foundation of an excitement of the vascular structure of the brain, and thus very frequently produce organic disease. When this has occurred, it will aggravate and establish the nervous affection, and thus perhaps render it insusceptible of cure.

Such are the general observations which I have made, by means of anatomical enquiry, relative to these subjects. With respect more especially to the investigation of my present object, I have examined the bodies of six patients, in whom disease most certainly began in the abdominal viscera, and was continued,

tinued in them to the conclusion of their lives. Nevertheless the patients seemed to die rather of nervous disorder, than of disease of the parts first affected. One of the patients died affected with apoplectic symptoms, and five with hemiplegia.

In all these cases the liver was greatly diseased, and the bowels also exhibited diseased appearances. In three of the cases there was considerable inflammation of the membranes of the brain; and a good deal of water in the ventricles. In two of them no morbid appearance of the brain was discovered. I have also examined a child, who was supposed to have died of the hydrocephalus, accompanied by great disorder of the stomach and bowels. In this case the bowels were inflamed, the liver found, and the brain perfectly healthy in appearance; yet there had been so great a diminution of sensation and motion, as to leave no doubt of the existence of hydrocephalus. I am aware, that great opportunities of observation, accurate attention to the history of diseases, and anatomical examination

nation of fatal cases, are requisite to enable us to form just notions relative to the present subject. I thought, however, that it might not be improper to state what had been the result of my own enquiries by dissection, in order to promote a more general attention to the subject.

When my attention was first directed to the subject of the sympathetic affections of other organs, which were caused by the disorders of those concerned in digestion, my primary object was to endeavour to ascertain, by dissection, how far pulmonary diseases originated from such a source. I have, in the course of my enquiries, had several opportunities of examining the bodies of patients who apparently died of phthisis, combined with diseases of the digestive organs. In these cases both the history and dissection tended to prove, that the chylopoietic viscera were the seat of the greatest and most established disease, and that the pulmonary affection was a secondary disorder. The liver was greatly diseased, and the lungs were also beset with tubercles; yet a considerable

considerable portion of those organs was found. But dissections can never conclusively ascertain the truth of the opinions which I have stated; for the same disposition to disease existing in the constitution may equally affect both the pulmonary and digestive organs. Nay, observations made in dissection in general, would tend to disprove the opinions alluded to; for diseases of the lungs are very commonly met with in dead bodies, while those of the liver and bowels are much less frequent. Yet considerable disorder of the digestive organs does exist, and may continue for many years, without any organic disease being apparent: it is possible, therefore, that such disorder may excite disease of the lungs, and thus produce a worse disease in the latter organs, than what existed in the former. In short, the opinions which I have mentioned, cannot be either ascertained or refuted by anatomical researches alone.

Accurate attention to the state of the digestive organs may determine this important subject, and lead to the prevention and cure of

the sympathetic diseases which I have mentioned. The attention alluded to, is not of that general kind which adverts only to the quantity of the ingesta, and the periodical expulsion of the egesta, but one that more strictly observes whether the viscera are free from irritation, and whether their secretions are healthy or otherwise. My opportunities of acquiring practical information on this subject must necessarily have been very limited; yet I have seen many cases which, to me, appeared to prove, that pulmonary irritation sometimes proceeds from disorder of the digestive organs. In such cases of surgical diseases, accompanied by disorder of the digestive organs, as have been related, I have occasionally observed a cough attended with expectoration to cease, upon the correction of the disorder of the digestive organs.

A case, which happened about five years ago, strongly impressed these opinions on my mind. A servant of mine told me, that his wife was dying of a consumption, which had been rapidly increasing for six months, and had

had baffled all attempts to relieve it. Thinking that I could procure her some medical assistance from the hospital, I went to see her. The case, however, seemed past hope. She was extremely emaciated; her pulse beat 140 in a minute; her face was flushed; she had a most distressing cough; and spit up more than a pint of mucus, mixed with pus and streaked with blood, in twenty-four hours. The circumstance, however, which most disturbed her was a continual purging of black and offensive matter. She told me that the disorder of the bowels was the first disorder; that it had preceded the pulmonary affection, and, indeed, that it was an habitual complaint. I thought it unnecessary to trouble my medical friends in so hopeless a case; and ordered some pills, containing one grain of opium, to be taken in such quantity as was necessary to stop the purging. As she informed me that the disorder began in the bowels, I added to each pill half a grain of calomel. By these means the purging was so much checked, that she did not find it necessary to take more than two pills in twenty-four hours; and when she

had

had taken twelve, the mercury, very unexpectedly, affected the mouth. From that period, the stools became of a natural colour and consistence; the cough and expectoration ceased; and she was soon sufficiently recovered to go into the country; from whence she returned apparently in good health.

Now if it were to be ascertained, that pulmonary irritation, which might of course produce pulmonary disease, sometimes arises from disorder of the digestive organs; it would be right to enquire farther, whether it produces such effects, by the nervous disorder it occasions, and by its operation on the health in general; or by means of a more immediate sympathy existing between the pulmonary and digestive organs. I do not mean to insinuate, by what has been said, that pulmonary diseases do not arise originally and idiosyncratically; but only to suggest that they may arise sympathetically, or in consequence of disorder of the digestive organs. The proportionate number of cases, in which they originate in this manner, can only be determined by

by very extensive experience. That the stomach and bowels are disordered, during the progress of phthisis, will, I conclude, be readily admitted; and that an attention to correct such disorder is requisite, must be acknowledged, from what has been said relative to the influence of such treatment upon various local diseases.

The actions of the heart seem to me also to become disordered from sympathy with the stomach. That palpitations, and feeble or intermitting actions of that organ arise from this cause, is proved by their ceasing, when the state of the stomach becomes changed. The palpitations which take place after eating, in cases where the heart is irritable, farther evince the sympathy which exists between these organs. Surgeons are occasionally consulted on palpitations of the heart, which the patients mistake for aneurisms: I have seen many instances, where the great degree of palpitation led to a belief, that some organic affection existed. This has ceased on an amendment of the general health, apparently arising from

from an amelioration of the state of the digestive organs, and the patients have continued in perfect health. I have not collected any accurate narratives of the cases that I have seen: none at least which I could properly present to the public as a proof of the fact. There is nothing, however, of which I am more perfectly convinced; for I have felt it to be true in my own person. After considerable and unusual fatigue, I was seized with pain, and a sensation of coldness in the region of the stomach. I had no appetite, and the biliary secretion was suppressed. Whilst this disorder continued, which was for many weeks, my pulse intermitted very frequently, and I was distressed with hypochondriacal sensations. Upon an alteration in the state of the digestive organs, and a renewal of the biliary secretions, which happened very suddenly after taking five grains of the pil. hydrarg. my pulse became perfectly regular, and my mind tranquil.

The observations, which I have made in surgical cases, lead me also to attribute many hæmor-

rhages, and particularly those from the nose, to a sympathetic affection of the heart and arteries, excited by disorder of the digestive organs.

If such a state of the system in general, as I have described, and which is manifested by circumstances denoting the digestive organs to be in an unhealthy state, and the nervous system to be likewise disordered, may, in some instances, cause various local diseases of parts not essential to life, the care of which, custom has consigned to the surgeon; and may, in other instances, produce disorders of organs essential to our existence, the care of which is allotted to the physician; the subject must be allowed to be of the highest importance. Of late, indeed, I have been inclined to consider these circumstances as the cause of the complicated diseases which are met with in man, so much more frequently than in animals. In man the brain is more sensitive, and liable to be disordered by mental affections. In man the digestive organs are liable to be disordered by stimulating and unnatural diet.

Sedentary

Sedentary habits and impure air co-operate to aggravate these disorders. The disorders of the brain and digestive organs mutually increase each other; and thus a state of constitution arises, which is productive of the most general and complex diseases. But even these do not seem to me to be the most calamitous terminations of such causes. The disorder of the sensorium, excited and aggravated by the means which have been described, frequently affects the mind. The operations of the intellect become enfeebled, perplexed, and perverted; the temper and disposition irritable, unbenevolent, and desponding; the moral character and conduct appears even liable to be affected by these circumstances. The individual in this case is not the only sufferer, but the evil extends to his connections and to society. The subject, therefore, appears to me of such importance, that no apology need be offered for this imperfect attempt to place it under general contemplation*.

* The ancients, who formed their judgment of the nature of disorders by observing the excretions, denominated an irritable

I feel myself under great obligations to Mr. Boodle, from whom, as I have mentioned in the preface, I first derived those opinions which are recorded in the foregoing pages. By this view of the subject, which he first instructed me to take, I think I can perceive many circumstances relating to the causes and effects of diseases, which before would either have been very obscure, or not all distinguishable. Mr. Boodle first instructed me how to detect disorders of the digestive organs, when their local symptoms were so trivial as to be unnoticed even by the patient; and pointed out to me what were the curative indications in these disorders. Many of the cases, which I have related, shew how much faulty actions of the liver contribute to cause or aggravate the general disorder. The relief, which frequently arises from the renewal or correc-

and desponding state of mind, Hypochondriasis; and when a more fixed and irrational dejection took place, they deemed it an atrabiliary disorder, and called it Melancholia. There can be no doubt of the correctness of their observations; for if the disorder began in the nervous system, it would generally produce and become aggravated by that disorder of the digestive organs, from which they denominated it.

tion of the biliary secretion, in these cases, was the circumstance which at first made the greatest impression on his mind. I believe, however, that his opinions of the nature of the disorder of the digestive organs, and its operation in the production of other diseases, have been, and are, very similar to those which I have delivered. Indeed, as we have lived in the most unreserved communication of our sentiments, it is not probable, that our opinions are materially different. I have been very solicitous that Mr. Boodle should publish his own account of this subject, and the facts which he has collected: but as his time is fully occupied in the practice of his profession, it is probable, that many years might elapse before he could do so, in a manner satisfactory to himself. I hope and expect, however, that he will undertake this task. The medical treatment of diseases, is the most important part of our knowledge relating to them. The plan, which I have suggested, may be applicable to such disorders of the digestive organs as require the attention of a surgeon, whose chief object is the cure of local disease; but it appears

pears to me very inadequate to the cure of those more complicated forms of disease, which come under the care of the physician. To this subject Mr. Boodle has, I know, paid great attention; and a narrative of cases must be valuable, when given by a person who remarks the progress of disease, and the effects of medicine, with sagacity and accuracy.

On Diseases of the Urethra; particularly of that part, which is surrounded by the prostate Gland.

EVERY surgeon will, I believe, acknowledge that an obscurity hangs over the subject of strictures of the urethra, which prevents us from perceiving the cause of many circumstances, which occur in daily practice. Contractions of this canal are sometimes readily enlarged to their natural diameter by the introduction of common bougies, and the cure thus effected is permanent. In other cases it is difficult to procure even a temporary enlargement of the contracted part; and the stricture returns, when the means by which it was relieved are discontinued. This variety in the event of different cases may, in some instances, depend on the kind and duration of the

the

the disease in the strictures themselves; yet, in many others, I am convinced that it is owing to other circumstances, which it is my design to consider in the present paper. Before my observation had been directed to these circumstances, I was much puzzled to account for the discordance in the result of cases apparently similar. I was equally unable to understand some occurrences, like those which are represented in the following case.

C A S E.

A gentleman, whose life was made uncomfortable by a very frequent and very urgent propensity to void his urine, applied to me for advice. Two strictures were discovered in the further part of the urethra, which did not oppose the passage of a bougie as large as a goosequill. Some difficulty was experienced when the bougie entered that part of the urethra, which passes through the prostate gland; and the patient complained of pain, which was considerably increased at the
 orifice

orifice of the bladder. The instrument, however, entered the bladder, though with difficulty; and it seemed to be grasped by the sphincter. The prostate was enlarged to twice its natural size; which circumstance seemed to me to explain the cause of the slight impediment, which occurred to the passage of the instrument through it. The urethra was unusually long in this patient; and though bougies had been frequently introduced, I suspect that they had never been passed into the bladder. The patient was of this opinion, from the peculiar sensations which he experienced, and which he had never felt before. He called upon me four days afterwards, said that he was much relieved, and requested to have the operation repeated. The same bougie which had been used before now passed with much greater facility. The patient still felt peculiar sensations, though much diminished in degree, as the instrument went through the prostate. It entered the bladder without difficulty, and without appearing to be grasped. I now introduced a larger bougie, which went through the strictures with less difficulty than the

the smaller one had done on its first introduction. This produced the same uneasy sensation on entering the prostate; it was retarded for a moment at the orifice of the bladder, and was slightly grasped at its entrance. All the symptoms were still more relieved by this second introduction. The same operation was repeated a few times; at first every fourth day, and afterwards once a week, till a bougie of the largest size could be passed without occasioning any uneasiness. The patient, during the latter part of the time, did not require to void his urine more frequently than is common. He was relieved from a great trouble; and, though many years have elapsed, he has not experienced similar inconvenience.

Such cases as the preceding induced me to suspect that a stricture might exist in the orifice of the bladder. The following case gave me new and, as I think, just ideas relative to this subject. Whether the opinions be correct or not, the cases, it must be admitted, deserve attention.

C A S E.

A gentleman, more than seventy years of age, had experienced for about six years a difficulty in voiding his urine, which gradually increased, till the stream became very small. This was attended with a frequent propensity to discharge the urine, which disturbed him every second or third hour during the night. At last a complete retention took place when he was in the country; and a surgeon attempted to introduce a small catheter, which however was prevented, by a stricture, from passing farther than six inches. The patient immediately came to London, when I directed him to take some castor oil, and to bathe the perinæum and adjacent parts frequently with warm water. After some time the urine flowed again, and he was relieved from the present urgent symptoms. In two days I examined the urethra, and found a stricture at six inches, through which I could not pass even a very small bougie. I touched this with the *argentum nitratum*; but the application

cation did not produce any alteration in the circumstances of the disease. On the third day the bougie passed on to a stricture at seven inches, which was also touched with caustic; and the same treatment was repeated with another stricture, at the distance of half an inch from this. The bougie now passed through all the strictures, and entered the prostate, when I was obliged to withdraw it immediately, from a sudden attack of pain and faintness. No enlargement of the prostate was discovered by an examination per anum; nor was it tender when compressed. I told the patient that I considered it very desirable to introduce a tubular instrument into the bladder, but that the minuteness of the stream of urine rendered it doubtful whether this could be accomplished. I requested him to call in another surgeon, that the attempt might be made by us conjointly. A flexible varnished catheter, containing a strong wire, was readily passed into the prostate, but could not be made to enter the bladder. The attempt was not long persevered in, from an apprehension of doing injury, if the instrument

were not guided in the right track. No blood flowed upon withdrawing the catheter. A slight retention of urine followed this attempt; but, after a few days, the patient was in the same state as before. On examining the urethra four days afterwards, I found that the smallest bougie would not pass farther than six inches; so that the contraction of the first stricture had been re-excited by the irritation occasioned by our late attempt. As the application of the *argentum nitratum* had so suddenly and completely relieved this stricture in the first instance, I now repeated this application, although I knew that the stricture was merely spasmodic. In the course of a few days a small bougie was introduced into the prostate, and afterwards a larger one. I now wished to ascertain whether I could pass the bougie into the bladder, or learn, by means of that instrument, the cause of the obstruction. As the patient found that he could void his urine most easily when lying on the left side, it seemed probable that the orifice of the urethra might be found in that direction. I therefore depressed the point of the instrument, and

and carried the other extremity towards the right groin, when most unexpectedly it went forwards into the bladder. When the bougie was withdrawn, a considerable quantity of clotted blood and mucus, with some matter, oozed out of the urethra; and the patient afterwards voided in a large stream about eight ounces of turbid and foetid urine mixed with mucus; after which he felt as if his bladder were completely emptied. From this time he had no occasion to void his urine more frequently than is natural, and he expelled it in as large a stream, and with as much facility, as he had ever done at any period of his life. The bougie was for some time introduced every third day, and afterwards once a week. It passed easily not only through the urethra, but into the bladder, when guided in the direction which has been mentioned. At first the point was soiled with blood and matter, but afterwards these appearances were no longer observable, which led me to conclude that the circumference of the ulcerated orifice of the bladder had completely healed. Two years afterwards this gentleman

gentleman experienced a recurrence of his former complaints; a small bougie only could now be introduced into the bladder. A larger bougie was passed through the urethra on the next attempt; but it was not carried forwards into the bladder, from an apprehension of irritating the prostate. After a few days the larger bougie was introduced into the bladder, and met with a little resistance at its orifice. From this time it passed with the same facility as when I discontinued my former attendance, and the patient found himself equally well. Two years have now elapsed without any necessity for repeating these operations.

In this case a disease took place in the prostate gland, without producing any evident enlargement or tenderness of its substance, though it proceeded to a state of ulceration. The disease seems to have operated on the continuous parts in two directions; backwards upon the bladder, rendering that organ irritable; and forwards upon the urethra, causing strictures, which were
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in some degree organic, but chiefly of a spasmodic nature. It must be allowed, however, that the obstruction of the aperture into the bladder by the discharges from the ulcerated surface contributed in a great degree to maintain the irritability of the organ, by impeding the discharge of the urine. This disease was also of a nature that admitted of relief, and the passage of a bougie seemed to effect its cure. It had, however, a tendency to recur, and the use of the bougie lessened the irritability of the part, and arrested the progress of the disease.

The circumstances of this case do not indeed unfold the cause and precise nature of the disorder, which, however, will in my opinion be elucidated by those which follow. They induced me to suppose that those instances, which I had formerly met with, and which appeared so unintelligible, were of a similar nature; and they made me particularly attentive to the state of the urethra, where it passes through the prostate gland, as I saw the possibility of this canal being diseased,

diseased, without the prostate being materially implicated in the disorder. The following case occurred soon afterwards.

C A S E.

A gentleman, between fifty and sixty years of age, had for twenty years been subject to occasional fits of dysury. I was desired to see him in one of these, which had been very severe and long continued. He was obliged to void the urine at least every hour. The calls were sudden and urgent, and the pain continued for a considerable time after the urine had been discharged. He had some fever, which such irritation would naturally produce. A moderate-sized bougie stopped at two strictures, but passed through them without much difficulty: when it entered the prostate, the patient complained of burning pain; of a strong irritation to make water; and grew so faint that I had merely time, by a gentle pressure, to ascertain that the bougie would pass into the bladder: when
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I withdrew it, the point was covered with blood, The patient was directed to bathe the perineum with warm water frequently, if the dysury was urgent. He was much relieved by the introduction of the bougie, and did not want afterwards to void his urine oftener than every second or third hour. The calls were less urgent, and the subsequent uneasiness less in severity and duration. After two days, a bougie of the same size was introduced to the extent of eight inches, and withdrawn; no blood adhered to its surface. A smaller bougie, much curved, was now passed into the bladder; the patient complained of the same uneasy sensation as before, when it entered the prostate; but he did not grow faint. The point was bloody for three quarters of an inch, but less so than on its first introduction. More relief was experienced this time. The urine was now voided only every fourth hour. Two days afterwards the bougie was again introduced into the bladder, considerably curved, and with the point carried along the upper surface of the urethra, where it passes through the prostate gland.

gland. The point was soiled with a yellowish fluid, slightly tinted with blood. As the patient was getting much better, the operation was not repeated till after four days, and then at the end of a week; at which time the blood and the yellow fluid had entirely disappeared. The urine was not voided more frequently than natural, nor was its expulsion attended or succeeded by any painful sensation. The strictures in this case felt firm, and not easily dilatable: I thought it necessary to relieve them, lest they should contribute to re-induce the irritation in the prostate; but the patient felt himself so well, that he was averse to any thing which might renew his former sufferings, and he has had no symptoms of dysury since that period. The prostate in this patient was not enlarged nor tender. Conclusions similar to those, which were deduced from the former case, may be more fairly drawn from this; viz. that a disease may occur in the membrane of the urethra where it passes through the prostate, and that it may render the bladder irritable, and produce strictures in the urethra; for in this case there
was

was no mechanical obstruction to the expulsion of the urine to produce irritation in the bladder. It also appears, that the disease admitted of relief by the introduction of a bougie.

I have lately met with another case in a younger man, who is between twenty and thirty years of age, and who was afflicted with similar fits of dysury, the cause of which could not be ascertained. I passed a bougie for him a few times, but found no stricture in the urethra. The same painful sensations were produced in the prostate, as in the preceding cases. The bougie did not appear at the time to relieve the dysury; but the complaint gradually ceased, and the patient left town. He has been much better since this time, and attributes his relief to the passage of the bougie.

C A S E.

A gentleman, about sixty years of age, was affected with dysury, which increased in violence, though various means were employed during

during two years for his relief. He voided his urine every second hour, or oftener, with great pain and severe irritation; which continued for some time after its expulsion. He had such a sensation of heat and uneasiness in the perinæum, that he could not bear to bring his thighs together; and he was obliged to use a cushion, with a vacancy in the middle, when he sat down. He could not ride in a carriage, or even walk out, although his general health was good. A moderate-sized bougie halted a little at two strictures, and when it arrived at the prostate produced a violent burning sensation, a vehement propensity to void the urine, and extreme pain at about two inches from the orifice of the urethra; which part was always particularly painful during the time of voiding the urine, and after its expulsion. On withdrawing the bougie, which had entered the bladder, its point was found to be covered with blood. The prostate being examined, felt rather broader than usual, but was not tender. The patient was relieved by the introduction of the bougie, which was repeated on the third day :
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it went more freely through the strictures, and the sensations, caused by its passage through the prostate, were diminished. The point of the bougie was bloody. I ascertained that the blood came from that part of the urethra which is situated in the prostate, by introducing a large bougie to the distance of eight inches, and then withdrawing it: the point was not in the least soiled with blood. The second introduction of the bougie produced considerable relief. The urine was retained longer, the uneasy sensation in the perinaeum was diminished, and the patient could walk or sit down more comfortably. The bougie was used every third or fourth day for three weeks; and then once a week for a month longer, its size being gradually increased. The appearance of blood on the point gradually ceased: it was afterwards soiled with a purulent and then with a mucous fluid, which appearances also gradually ceased. The water was now voided only at intervals of four hours, the subsequent pain being either trivial or entirely absent; the uneasiness in the perinaeum was

so inconsiderable, that the patient could walk for several hours, and sit down without pain. The seminal discharges had been attended with extreme pain, so great as almost to produce fainting, before the state of the prostate had been relieved: they afterwards took place without any unusual sensation.

These cases shew that the urethra may become irritable and diseased, where it passes through the prostate gland, without any material disorder of the contiguous parts. They induced me to pay particular attention to the state of that part of the urethra; which attention will, in my opinion, be found of great consequence in directing our treatment of these disorders. As it would render this paper extremely voluminous to detail the particular cases which I have met with, I shall merely relate the observations which I have made, and the inferences which I have drawn from them; that the profession in general may investigate the subject, and determine how far these observations and opinions are correct.

First,

First, then, it has appeared to me that a state of inflammation and irritation may take place in the remote part of the urethra to a greater or less extent. It may produce in the prostate that peculiar sensibility of the part which I have described; and in the perinæum it may cause contractions of different parts of the canal. Either of these affections may be more permanent than the other, even where each part has been equally affected in the beginning. This state of inflammation and irritation is frequently produced by gonorrhœa, though it may occur from other causes. If, injudiciously, a bougie be introduced when this disorder first occurs in a gonorrhœa, numerous spasmodic strictures* are met with; the patient becomes alarmed by the difficulty of passing the instrument, and by the name of strictures, and consults a more experienced surgeon, who directs local warm bathing, and

* I have used the term spasmodic strictures in the indiscriminate manner in which it is generally employed, though I am aware that it is objectionable: a stricture from spasm is not a stricture; and a stricture may be irritable or spasmodical, or otherwise.

the application of leeches to the perinæum. The disorder is cured; the patient expects that strictures remain; a full-sized bougie is introduced to satisfy him, which passes without the least difficulty. I am unable to determine whether in such cases the uréthra is affected in the first instance in that part which passes through the prostate, as I never made any examination under these circumstances, though I think it very probable that it is so. When a gleet becomes unusually protracted, it is frequently owing to the effects of this disorder in the remote part of the urethra, maintaining a degree of irritation in the front. Under these circumstances, it is allowable to introduce a bougie, when strictures will frequently be found in the perinæum; and in many cases, the patients whom I have attended have experienced those sensations, which are characteristic of tenderness in the membrane of the urethra, where it passes through the prostate. If, therefore, we look to the origin of those cases, which we are called upon to attend in their advanced stages, we might expect to find the disorder of the urethra various
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with respect to the kind and extent of the disease. That it will be found so in practice I do not hesitate to affirm, from the observations which I have already made relative to this subject. In some cases, strictures in that part of the canal, which is subject to such contractions, will be the sole disease. In others, an uneasiness, and such sensations as I have described, will be complained of as the bougie passes through the last inch of the urethra, which is contained in the prostate gland. In some cases also, the strictures will be the less degree of the disease, and the irritation in the prostate the greater; and in some cases it will be found that nothing is discoverable which can fairly be denominated a stricture, and yet the tenderness which I have described exists in a most painful degree. In deducing these diseases from the inflammation which gonorrhœa excites, I mean only to trace them from a very common origin. The same disorders frequently take place without having been preceded by that complaint. An attention to the circumstances, which have been mentioned, seems to me to explain the contra-

dictory events which happen, when a similar plan of treatment is pursued for the cure of diseases of the urethra. When strictures are the sole disease, they are often readily, and generally permanently, cured. When an irritation, such as I have described, exists in the prostate, it is difficult to enlarge the contracted portions of the canal; and, when that is accomplished, the strictures recur, as a cause of irritation to the urethra still continues. In some cases, the enlargement of the strictures fails to mitigate the dysfury, and in others it is augmented by the measures, which have been employed to cure the strictures, when the state of irritation at the neck of the bladder has been unadverted to. Many patients have applied to me under these circumstances, after having been under the care of other surgeons. They have stated, that small bougies only could be passed in the first instance, and that though the largest could now be introduced, the complaint was no better; nay, some have thought themselves materially worse. A bougie has passed in these cases eight inches, without meeting any considerable obstruction,

or exciting much sensation; but, after this point, it caused a most acute and burning pain, with vehement desire to make water. Some have enquired if I was withdrawing the bougie, whilst it was slowly proceeding, and some have complained of great pain in the front of the urethra. Similar cases have occurred in my own practice. I have relieved strictures, without materially benefiting my patients; of late years, I may venture to say, without making them worse; because I have been cautious not to hurt the canal, where it passes through the prostate.

Some cases of disorders of the urinary organs are made worse in the attempt to cure strictures: and I think I deliver an important admonition, to the younger part of the profession, when I caution them to beware, in their attempts to cure strictures, that they do not irritate or injure the last inch of that canal, where there are no strictures, but in which considerable disorder may nevertheless exist.

In some cases of diseased urethra, which I have not unfrequently met with, strictures are found, through which a small bougie passes with difficulty; and it produces those sensations, in passing through the prostate, which I have described, as peculiar to that part of the canal when in a diseased state. The patient, however, experiences relief from the introduction of the bougie; and if it be passed again on the third day, it will meet with no obstruction from the strictures, and cause less uneasiness in passing through the prostate. I have then taken a bougie of a larger size, such as it would have been impossible to introduce in the first instance, and this has passed through the strictures to the distance of eight inches; but I have forbore to carry it any farther, lest I should irritate the urethra near the neck of the bladder. It appears therefore to me, that you may relieve or aggravate strictures in such cases in proportion as you diminish or augment the morbid sensibility of the remote part of the urethra; and an attention to the state of this part is on this account of the greatest importance.

Having

Having thus adverted to the probable origin of the disease, which I am endeavouring to describe, and its connection with strictures, I proceed to observe, that such a state of morbid sensibility in that portion of the urethra, which passes through the prostate, may perhaps exist as a symptom of an irritable bladder. If the lining of the bladder were inflamed and irritable, it is probable that the disorder would extend into the urethra for some small distance. In the fourth case, I believe that the disease in question was complicated with an irritable state of the bladder; but whether it was to be considered as an adjunct circumstance, or in the relation of cause or effect, cannot be determined. The irritability of the bladder was diminished, but not cured, by the treatment which lessened this disease. In one gentleman, who apparently died of an irritable bladder, and who complained of the sensations, which I have described, in an acute degree, on the bougie passing through the prostate, the diseased parts were examined, but very trivial morbid appearances were observed. The lining of
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the bladder was not perfectly natural, and was inflamed; yet the diseased appearances were not striking; and in the urethra the deviation from the healthy structure was still less so.

It is not improbable, however, that such a morbid sensibility of the prostatic urethra may arise from an irritable bladder. Perhaps, also, it may occasionally arise from the irritation of the last stricture. Many patients with strictures, who complained much of the sensations at the neck of the bladder, at the commencement of the treatment of their complaint, have asserted, that they felt no unusual sensations when the bougie passed through the prostate, after the strictures had been cured. Yet, though I would admit that a tenderness of the canal of the urethra in the prostate may sometimes arise from its proximity and continuity with the lining of the bladder, or with the last stricture, I think it more frequently exists as an original and independent disease. It has been shewn, that it may render the bladder irritable, and excite contractions

tractions in the urethra. Some cases have been adduced, which shew that this state may exist, and yet the bladder may not be constantly irritable, but that it may be affected by fits. I have also met with a case where this sensibility existed in an extreme degree, and yet it seemed to have very little influence on the bladder. I have likewise known this irritable state of the urethra complicated with the common enlargement of the prostate.

I proceed, in the next place, to relate what I have observed respecting the treatment of the disease, which I have been describing. The three first cases shew, in a striking manner, the advantage derived from the introduction of bougies; and I have seen many similar ones, though I scarcely think so demonstrative of the utility of this mode of treatment. I know some patients with occasional attacks of dysury, and who have this tenderness of the remote part of the urethra, in whom the passage of a bougie, together with warm bathing of the perinaeum and adjacent parts, very speedily relieves a disease,
which

which had proved very tedious and distressing, before these measures were adopted. If a bougie be introduced, for the first time, in a case of this description, severe pain is felt, and faintness is occasioned: if this operation be repeated three days afterwards, the pain perhaps is much less severe, and it may diminish at each succeeding introduction of the instrument. Should this be found to be the case, surely nothing need be farther said in commendation of this mode of treatment. The morbid sensibility of parts is diminished by it. This happened in the three first cases in a remarkable degree, and I have known it take place in many others. Nor is there any thing in this event that should excite surprise: every surgeon is familiar with the same circumstance, with relation to strictures in the urethra. The first introductions of a bougie are very painful; the subsequent ones are even disregarded. Still, however, I think it may be useful to dwell a little on this subject, and consider the probable causes of these effects, as it may tend to establish rules for our conduct in practice. It appears to me, that we diminish

diminish the morbid as well as the natural sensibility of parts by doing them a degree of violence, short of that which produces a kind of re-action in them, by which their sensibility is heightened. This is, indeed, the consideration, which guides my practice in these and in many other cases. If, even in strictures of the urethra, the sensibility of the canal becomes increased by the introduction of bougies, or, in other words, if inflammation is excited, surely it is wrong to prosecute such measures at this juncture. If the morbid sensibility be diminished, we may use more freedom in the prosecution of our measures. In passing the bougie, in the cases now under consideration, it ought at first, I think, to be so small as not at all to distend the irritable urethra. I have always curved it considerably, and kept the point in contact with the upper surface of the urethra, as it passes through the gland. I recommend warm bathing to the perinæum, with a view to obviate or diminish irritation. If I find, on the second introduction of the bougie, the sensibility of the parts diminished, it induces me afterwards to
proceed

proceed more freely ; but at all times with a caution excited and regulated by the consideration which I have mentioned. Now, though such conduct has been successful in many instances, I am concerned to state, that it has failed in some others ; and, when I clearly ascertain that I am not likely to succeed, I cease to make farther attempts by the introduction of bougies, and pursue only general methods, such as warm bathing, bleeding by leeches, &c. When there are strictures, which it is right to enlarge, I pass the bougie through the last stricture, without carrying it on, so as to irritate the tender part of the urethra, which lies behind it. A knowledge of the nature of diseases cannot but be desirable, even though it does not enable us to cure them all. If strictures are removed, and dysury remains, I believe it is common to consider it as arising from an irritable bladder : now, though this may be a general truth, there are many exceptions. I do not find that attention is paid to that description of cases, which makes the subject of the present paper : I was unacquainted with them
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till I met with the cases which I first mentioned: the knowledge which I have thus obtained has enabled me to afford relief in many cases, and has prevented me from error in others.

On the Treatment of one Species of the
Nævi Materni.

I shall relate two cases, and say a few words on the treatment of this complaint, which is a congenital deformity, consisting in a cluster of enlarged vessels, filled, and occasionally distended by the influx of blood from numerous surrounding arteries. The deformity to which I allude is so well known, and so frequent an occurrence, as to preclude the necessity of any description. Mr. John Bell has of late proposed an ingenious theory of its formation, and has denominated it an aneurysmal enlargement of the vessels, in consequence of their anastomoses. There can be no doubt that the repletion, distention, and consequent enlargement of the dilated vessels depends

depends upon a kind of inflammatory action of the surrounding arteries; for, if that be wanting, the mark ceases to enlarge, and if present, it increases in size in proportion to the degree of inflammatory action. In many cases these marks, having increased to a certain degree, cease to enlarge; they then remain stationary, or gradually diminish, till they almost disappear. This occurrence is not so frequent as to induce surgeons to expect such an event, or to prohibit, in consequence of such expectation, their removal. For, if they continue to enlarge, the operation must be commensurate to their size. The consequences of their bursting are alarming and vexatious. It is not, however, my intention to speak of these affections in general, but only to state what, perhaps, may in some instances be done with success, when the removal of the unnatural structure cannot be accomplished. For this preternatural enlargement of vessels is not always cutaneous. I have seen it occupying the whole substance of the cheek, neither appearing beneath the skin nor the membrane of the mouth: I have met

met with it in the orbit of the eye, and have found it covering the whole of an extremity, or nearly one half of the trunk of the body. If any means can be pursued, under such circumstances, to check the progress of the complaint, they surely deserve attention. I was lately so fortunate as to succeed in such endeavours, in cases, the relation of which is my chief object at present.

C A S E.

A child about two months old was brought to St. Bartholomew's hospital, with this unnatural enlargement of vessels, distributed every where beneath the fore arm, from the wrist to the elbow. In a short time it had swollen to that degree, that the circumference of the affected fore arm was twice the size of the other. The vessels were large and contorted; and to give the reader an idea of their appearance, I may mention that the child's mother affirmed that they resembled the entrails of a pig, with which she had either been frightened or disgusted during her pregnancy.

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The skin was of a dusky hue, and had not its natural smoothness of surface. The heat of this fore-arm was much greater than that of the corresponding sound one. Pressure forced the blood out of the vessels, and temporarily diminished the bulk of the limb, and made it of a paler colour. The child's mother lives at Turnham Green, where Mr. Graham, an ingenious surgeon, who was for a long time a student at St. Bartholomew's Hospital, also resides. I requested this gentleman to take charge of the case, and try the effect of the following plan of treatment, which it seemed to me right to institute. First, I was desirous of ascertaining whether a permanent and equable pressure would not prevent the distention and consequent enlargement of the turgid vessels; secondly, whether reducing the temperature of the limb would not diminish the inflammatory action, upon which their repletion seemed to depend. These two intentions admitted of being readily accomplished. A many-tailed bandage of sticking plaster seemed adequate

adequate to effect the first, and wetting the limb with water the latter. These measures were judiciously carried into effect by Mr. Graham; the pressure was first made slightly, and afterwards more forcibly, as the part seemed to bear it without inconvenience. A roller was applied over the plaster and kept wet, if the limb felt hotter than natural, so as to regulate its temperature. The success of these measures exceeded our most sanguine expectations. The size of the limb gradually diminished, and its temperature became natural. After six months, Mr. Graham removed the bandages, which it was not necessary to continue any longer. The limb was in some degree wasted, from pressure and disease, but it soon gradually re-acquired its natural size. After the bandages had been left off for a month, I saw the child. The skin was pale and had a slightly shrivelled appearance. The contorted vessels felt like solid chords interposed between it and the fascia of the forearm.

CASE.

C A S E.

A child had this unnatural state of the vessels in the orbit of the eye. They gradually increased in magnitude, and extended themselves into the upper eye-lid, so as to keep it permanently closed. The clustered vessels also projected out of the orbit, at the upper part, and made the integuments protrude, forming a tumour as large as a walnut. Of course, the removal of this disease did not appear practicable. I was consulted on this case by Mr. Hurlock, whom I told of the success of the former experiment. Pressure to any extent was here evidently impossible; but the abstraction of heat, and consequent diminution of inflammatory action might be attempted. I recommended that folded linen, wet with rose water saturated with alum, should be bound on to the projecting part, and kept constantly damp. Under this treatment the disorder as regularly receded as it had before increased. After about three months it had gradually sunk within the orbit, and the child could

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open

open its eye. Shortly afterwards all medical treatment was discontinued, and no appearance of this unnatural structure remains.

A third case of a very extensive mark of this description, covering the back and shoulder, got well, as I am informed, by the same treatment. I have not, however, been able to learn the particulars. It appears to me probable, from the foregoing cases, that if the preternatural distention of the vessels could be prevented, the blood might coagulate in them; and thus this unnatural contexture of vessels, being rendered impervious, might become obliterated.

The best mode of obtaining and increasing professional knowledge is, in my opinion, to pay that strict attention to cases, which enables us to note those nice shades of difference, which distinguish diseases from each other; and also to form some regular arrangement of them; so that, ultimately, we may be able to discover their natural series and order. This method I have pursued from the beginning of my professional

professional studies. Whenever the opinions, which an attention to cases had impressed on my mind, differed from those which seemed to prevail amongst other practitioners, I published the cases, and the inferences which I drew from them ; because I thought the cases, at least, deserved attention, and that the justness of my opinions would either be confirmed or confuted by those of the public. It is also of acknowledged utility to the promotion of science, to excite investigation, and even publicly to announce the deficiencies of our knowledge. Such were the considerations, which induced me to lay before the public my former and the present essays and observations. I am induced to mention my motives, though indeed they are sufficiently apparent, because I suspect that I may, on this occasion, be again censured for producing unfinished performances, and for not paying sufficient attention to the records of similar cases, which are contained in books. The very design of the work includes in it, however, a degree and acknowledgment of imperfection ;
and

and what I wish to observe on this subject will be best expressed in the words of Horace :

“ Est quôdam prodire tenus ; si non datur ultra.”

For my apparent inattention to reading on the subjects, which it is the intention of these essays and observations to illustrate, I have formerly assigned, what appeared to me to be an adequate apology—

“ In proportion as we advance in knowledge, we are led to remark many circumstances in the progress of a disorder, which had before passed without notice ; but which, if known and duly attended to, would clearly point out the nature of the complaint. Hence the records of former cases are of much less value ; as the symptoms, about which we are now anxious to inquire, have, in them, been entirely overlooked.” To adduce cases without opportunities of identifying them, would only lead to controversy.

Again then I publish a work, with all these imperfections, regardless too of my own reputation,

putation, whilst I am conscious of performing a duty in not secreting knowledge, or making it merely subservient to private views; but in publishing information, which could not be collected without opportunities that few possess, and which may, in various ways, contribute to promote the advancement of medical knowledge.



THE HISTORY OF THE

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BY JOHN BURNET
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